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ABSTRACT

Characteristics and trends of U.S. Fcreign Medical Students who sought transfers from fcreign tc U.S. medical schools via the Coordinated Transfer Applicatien System (COTRANS) from the beginnning of the program in 1970 up tc the present is presented. The overall focus is on the five-year time period, 1972 through 1976. Descriptions of other-than-AAMC re-entry prcgrams are included to provide perspective for the COTRANS data. Changes in selected major characteristics of COTRANS participants over time are presented in four major sections: (1) historical and current infcrmaticn; (2) academic ability levels; (3) demographic and career choice data; and (4) other-than-AAMC re-entry programs. COTRANS data presented were derived mainly from the computerized COTRANS tape filing ccmprising information supplied by COTRANS participants and Part I, NBME test scores furnished by the National Board of Medical Examiners. (SPG)

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TREND STUDY OF COORDINATED TRANSFER APPLICATION SYSTEM (COTRANS) PARTICIPANTS, 1970 THROUGH 1976

FINAL REPORT

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TREND STUDY OF COORDINATED TRANSFER APPLICATION SYSTEM (COTRANS) PARTICIPANTS, 1970 THROUGH 1976

W. F. Dube

DIVISION OF STUDENT STUDIES
ASSOCIATION OF AMERICAN MEDICAL COLLEGES

FINAL REPORT

December 1977

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TREND STUDY OF
COORDINATED TRANSFER APPLICATION SYSTEM (COTRANS)
PARTICIPANTS, 1970 THROUGH 1976

EXECUTIVE SUMMARY

This Phase II report presents characteristics and trends of U.S. Foreign Medical Students who sought transfers from foreign to U.S. medical schools via the Coordinated Transfer Application System (COTRANS) from the beginning of the program in 1970 up to the present. The Phase I report concentrated on a one-year (1975) descriptive analysis of characteristics of COTRANS participants. Time-spans covered in the Phase II report mainly focussed on the five-year period from 1972 through 1976. Some of the historical data presentations included earlier years, while most of the demographic data were based on recent years, 1975 versus 1976. Descriptions of other-than-AAMC re-entry programs were included to provide perspective for the COTRANS data. The findings were presented in four major sections:

A. Historical and Current Information

Yearly totals of USFMS candidates sponsored by COTRANS for Part I, NBME ranged from 285 (1970) to 807 (1972) and to 1,044 (1976); while actual examinee totals ranged from 270 to 676 and to 852 for the same years. A peak of 957 occurred in 1973. Totals of passing candidates progressed steadily upward from 215 (1972) to 459 (1976) with passing percentages ranging from 32 percent (1972) to 54 percent (1976). Advanced standing admissions of COTRANS candidates at U.S. medical schools progressed unevenly and ranged from 82 (1970) to 214 (1972) and to 373 in 1976. Admissions of USFMS transfers sponsored for Part I, NBME by individual medical schools were on the increase. Prior to going abroad, about two-thirds of the COTRANS candidates had applied unsuccessfully to U.S. medical schools during a time period when acceptances rose by 49 percent but rejections accelerated by 150 percent.

B. Academic Ability Levels

1. Part I, NBME Test Performance: The overall trend of passing mean scores was upward from 464 (1972) to 489 (1975) but declined sightly to 483 (1976) or 17 points below the mean of 500 of the Candidate Reference Group (see Glossary) from U.S. medical schools. Total mean scores ranged from 312 to 381 over the same five-year period. Mean scores of men candidates tended to be higher than those of women candidates.

Repeating examinees accounted for 12 percent in 1972, 40 percent in 1975, and 23 percent in 1976, and their pass rates were above 50 percent each year. Pass rates of first-time examinees were consistently under 50 percent. The percentages of women increased only gradually from less than five percent in 1972 through 1974, to nine percent in 1975 and ten percent in 1976.

By major host country, the most noteworthy change was the decrease in the proportion of Americans at Mexican medical schools from 75 percent in 1973 and 1974 to 40 percent in 1976. Passing test scores for the total group continued to concentrate below the mean of 500, but the proportions above this mean advanced from 28 percent in 1972 to 38 percent in 1976 due to upward trends in some of the host countries.

2. Undergraduate Academic Background: The mean MCAT Science scores of yearly COTRANS groups showed an upward trend for those who passed and also for the total. Passing means increased from 543 in 1972 to 573 in 1976, while total group means moved from 513 to 550 over the same period. MCAT Science means of U.S. medical school applicants of corresponding years increased from 558 to 603. Undergraduate grade point averages of COTRANS candidates were all below 3.00. Correlations between MCAT Science scores and Part I, NBME total test scores resulted in coefficients that increased from .37 for 1972 to .44 for both 1975 and 1976.

C. Demographic and Career Choice Data

1. Geographically, 62 percent of the 3,952 COTRANS candidates examined from 1972 through 1976 came from New York, New Jersey, and California. An additional 19 percent were from Texas, Pennsylvania, Florida, Illinois and Ohio.

2. Ages ranged from the early twenties to the early fifties with mean ages of men changing from 25.1 in 1972 to 26.1 in 1976. Mean ages of women tended to be slightly higher but the ranges were smaller.

3. Racial/ethnic self-description responses disclosed 17 percent minority students in 1976 versus 12 percent in 1975, but the absence of black Americans continued.

4. The parental income median of 1976 COTRANS candidates (reflecting 1971 and 1972 income levels) amounted to $18,900; a gain of $1,000 over 1975. Comparable medians of the corresponding U.S. medical school applicant pool were $16,000 for the total and $17,300 for acceptees.

5. Nearly three-fourths of the 1975 and 1976 COTRANS candidates had fathers with professional and owner/manager occupations. The 22 percent "Physician" fathers of the 1976 COTRANS group compares to 12 percent "Physician" fathers among 1974-75 U.S. medical school applicants. Eighteen percent of the COTRANS candidates were from non-professional family backgrounds.

6. Of the General Career Activity choices, nearly two-thirds indicated preferences for "General Practice" and "Specialty Practice." Of the eleven Specialty categories, "Family Practice" and "Surgery or Surgical Specialty" were more popular in 1976 than in 1975. A three percentage-point decrease over 1975 was noted for "Public Health, Community Medicine." Among the 1976 Character of Medical Practice options, declines over 1975 were noted mainly for "Individual" and "Public Health" practices. Both "Partnership" and "Private Group" practices gained somewhat in popularity in 1976.

D. Other-than-AAMC Re-Entry Programs

Although descriptions were provided for all three of these programs (ECFMG, Fifth Pathway, and FLEX), test performance data from selected host countries were only included for the ECFMG examination. Nevertheless, direct comparisons of test performances between ECFMG candidates and COTRANS candidates were avoided since the test contents as well as the length of medical study involved are vastly different.

Conclusions

The overall trend of test participation totals advanced standing admissions, and academic performance of COTRANS-sponsored examinees since 1970 was upward, gained momentum in 1975 and plateaued in 1976. About two-thirds of all COTRANS candidates had applied unsuccessfully to U.S. medical schools prior to entering foreign medical schools. Their somewhat lower combinations of MCAT Science scores and undergraduate grade point averages may have contributed strongly to their initial rejection by U.S. medical schools. More than half of the 1975 and 1976 COTRANS groups passed Part I, NBME, and the proportions of total test scores above the mean increased from 28 to 38 percent since 1972. The pattern of advanced standing admissions at U.S. medical schools was uneven, progressing from 214 to 373 between 1972 and 1976.

Nearly two-thirds of the yearly COTRANS groups were from New York, New Jersey, and California, almost four-fifths were age 27 or younger, and 17 percent (1976) were (non-Black) minority students. In both 1975 and 1976 about three-fourths came from professional or owner/manager home environments. Although 47 percent in 1976 indicated parental income levels above $20,000, 35 percent came from family backgrounds between $10,000 and $19,999 and 18 percent from levels under $10,000. The 1976 parental income median was $18,900. Of the specialty choices, "Family Practice" was more popular in 1976 than in 1975.

Other-than-AAMC programs (ECFMG, Fifth Pathway and FLEX) were described, but because of the lack of national

data for some of these programs and the differences in test contents, direct comparisors of test performance data were not included.

I. INTRODUCTION

From the late sixties to the present, ever-increasing numbers of Americans have turned to foreign medical schools because the supply of first-year places in U.S. medical schools has not met the demand. For the period under review,[1] the acceptance offers from U.S. medical schools that rose by 49 percent were outpaced by the number of applicants that increased by 102 percent. At the same time, rejected applicants accelerated by an even more dramatic 150 percent, totaling over 26,000 for each of the 1973-74 and 1974-75 first-year classes. Considering the volume of rejections, it is not surprising that an estimated 4,000 to 6,000[2] Americans have been studying medicine abroad at any one time.

Before 1970, the first year of the Coordinated Transfer Application System (COTRANS), fewer than 50 Americans succeeded in transferring from foreign to U.S. medical schools each year. From 1970 through 1976, more than 5,600 were sponsored by COTRANS for Part I of the examinations of the National Board of Medical Examiners (NBME), over 4,600 were tested, 40 percent passed, and nearly 1,500 accomplished the transfer.

On a yearly basis, however, these numbers represent only a small portion of the expatriate American medical students. The majority of these students complete all or most of their medical education abroad and then attempt to qualify for hospital training in the United States via the examination of the Educational Commission for Foreign Medical Graduates (ECFMG) or the Fifth Pathway program. More than 2,000 U.S. Foreign Medical Graduates (USFMG's) take the ECFMG examination each year (many for the second

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[1] COTRANS years when transfer was sought = 1970 through 1976; corresponding U.S. medical school applicant years = 1968 through 1974.

[2] Coordinating Council on Medical Education, Physician Manpower and Distribution: The Role of the Foreign Medical Graduate (Chicago: Coordinating Council on Medical Education, 1976), p. 11.

or third time) but only 30-40 percent pass. Nearly 400 additional students per year who completed medical course work but did not fulfill foreign internship and social service requirements for M.D. degrees, qualify for graduate medical education through the Fifth Pathway clerkships. Initial U.S. licenses to practice medicine are issued to about 200 American graduates of foreign medical schools each year. These licenses are granted by state medical boards, mostly via the Federation Licensing Examination (FLEX), and are reported in the annual "Medical Education in the United States" issues published by the American Medical Association.[3].

The present study is the second in a series conducted by the Association of American Medical Colleges (AAMC) for the Bureau of Health Manpower, DHEW and is primarily concerned with exploring changes in the academic and demographic background characteristics of U.S. citizens seeking transfer via COTRANS from foreign to U.S. medical schools from 1972 through 1976. The secondary objective of this Phase II study is a comparison of test results of COTRANS candidates with those of other U.S. foreign medical students and/or graduates who did not participate in COTRANS but who returned to U.S. medical education or practice through other re-entry programs, such as the ECFMG examination, the "Fifth Pathway" clerkship or FLEX.

The COTRANS program is a cooperative effort of the AAMC and the NBME and was established in 1970 to assist U.S. Citizen Foreign Medical Students wishing to transfer from foreign to U.S. medical schools. COTRANS sponsors eligible USFMS applicants for evaluation through Part I, NBME, an important prerequisite for accomplishing these transfers. It should be noted that COTRANS establishes eligibility and disseminates information to participants and to U.S. medical schools but does not provide placement services.

The other re-entry programs are not administered by the AAMC but by independent private agencies. In 1956, the ECFMG examination was established for evaluation and certification of foreign and U.S.-born physicians educated

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[3] American Medical Association, Medical Education in the United States, 1975-1976, Journal of the American Medical Association 236(1976):2963.

abroad but seeking training or practice in U.S. hospitals. The "Fifth Pathway" program was initiated by the American Medical Association in 1971 for U.S. citizens who studied medicine abroad but were not eligible for ECFMG certification since they had not completed all of the foreign requirements for practice, such as internship and/or social service. FLEX was created in 1967 as a uniform licensure test for use by state medical boards for any physician not eligible to take the NBME tests for certification.

Highlights of Phase I Analysis

The first study in the series of COTRANS reports concentrated on a descriptive analysis of academic, socioeconomic and career choice characteristics of 1975 COTRANS participants. Major findings of the analysis established that 57 percent of those who took Part I, NBME passed and that the mean score of these passing COTRANS candidates was 489. (The mean of the norm group for candidates from U.S. medical schools was 500.) More than a third of the passing COTRANS group scored above 500. Forty percent of all COTRANS-sponsored examinees were test repeaters and 9 percent were women. In the fall of 1975, 243 COTRANS-sponsored examinees were admitted with advanced standing by 41 U.S. medical schools, but not all of them belonged to the 1975 examinee group.

About two-thirds of the 1975 COTRANS candidates had applied for first-year places in U.S. medical schools in 1973-74 and were not successful. Their mean MCAT Science score (531) was lower than that of acceptees (592) at U.S. medical schools but higher than that of non-accepted applicants (524). Mean grade point averages, however, were generally below those of both the accepted and non-accepted categories of the 1973-74 applicant pool of U.S. medical schools.

Most of the 1975 COTRANS participants were residents of three states: New York, New Jersey, and California. Their ages, as of April 1975, ranged from 21 to 53 with a mean age of 26.2. These students attended 67 medical schools in 21 foreign countries, with large concentrations in 8 host countries. Their parental income median ($17,900 based on 1971 levels) was higher than that of the 1973-74 applicant pool ($14,800) of U.S. medical schools, but the difference was smaller than anticipated. Nearly

three-fourths of the fathers of COTRANS candidates were professionals or owner/managers.

This report was prepared by W. F. Dubé, Associate Director, with contributions from Davis G. Johnson, Ph.D., Director, and Mary Frances Ackerman, Research Assistant, of the AAMC Division of Students Studies, and Dr. Emanuel Suter, Director of the AAMC Division of Educational Resources and Programs.

II. METHODOLOGY

A. Data Sources

The information analyzed in this Phase II study consists mainly of AAMC data from the COTRANS program and from U.S. medical school applicant records but includes some "Other-than-AAMC" data to provide a somewhat broader context.

1. COTRANS Application

The following data elements were derived from the COTRANS application form (see Exhibit 1): Social security number, name, preferred mailing address, permanent address, legal residence, sex, date of birth, undergraduate school, undergraduate school state, undergraduate science GPA, undergraduate non-science GPA, total undergraduate GPA, latest MCAT scores, foreign medical school name, country of foreign medical school, date entered foreign school, enrollment year, previous sponsorship by COTRANS, previously taken Part I, NBME.

Individual data items were transferred from application forms to the computerized COTRANS file. MCAT scores and grade point averages were not verified. From 1970 through 1975, transcripts from foreign medical schools were required as evidence of current enrollment status and completion of the minimum basic science courses of anatomy, physiology, and biochemistry. Beginning with the 1976 COTRANS year, the transcript requirement was replaced by an Enrollment Verification Form that was part of the COTRANS application (Exhibit 1). The transcript or enrollment verification was required to determine eligibility for taking Part I, NBME. Evidence of current enrollment must be from a foreign medical school that is recognized by the government of the country where it is located and that is listed by the World Health Organization in the World Directory of Medical Schools.

From the information provided on the COTRANS application forms, Eligibility Summaries of applicant profiles are produced in alphabetical order from the computerized COTRANS tape file. These summaries are

issued periodically prior to each Part I, NBME test administration to participating and requesting U.S. medical schools. The biographic and academic data shown in these summaries reflect key information provided by USFMS's approved as eligible for participation in Part I, NBME.

2. Part I, NBME Test Score Summaries

The National Board of Medical Examiners issues a Composite Report of Scores of all COTRANS-sponsored examinees after the June and September test administrations each year comprising the following items: NBME identification number, name, test center number, birth date, anatomy score, physiology score, pathology score, microbiology score, pharmacology score, behavioral science score, total score, pass or fail.

These Composite Reports of Scores are sent to interested U.S. medical schools for all COTRANS candidates who signed release of test score statements. Individual Reports of Scores are sent to each COTRANS-sponsored examinee about six weeks after each test administration. Under COTRANS rules, Part I, NBME may be taken only once during a calendar year either in June at foreign or U.S. test centers or in September at U.S. test centers only. This test may not be taken more than three times. A request for a fourth try would have to be initiated by a U.S. medical school and reviewed by the National Board of Medical Examiners. The yearly Part I, NBME test results become part of the computerized COTRANS file.

3. Medical Student Information System (MSIS)

For 1975 and 1976 COTRANS participants who had previously applied to U.S. medical schools (usually 2 years earlier) and whose social security numbers could be matched, additional data elements were drawn from the Applicant file of MSIS. (For similar data regarding COTRANS participants of earlier years, see Methodology Section E.) Academic data, such as MCAT scores and undergraduate grade point averages, that were derived from MSIS constitute verified score/grade information rather than applicant self-reports. Other variables used from MSIS include the following socioeconomic and career choice characteristics:

a. Racial/ethnic self-description

b. Type of undergraduate college attended (public or private)

c. Parental income level

d. Parental educational level

e. Tentative career activity plans

f. Tentative specialty choice

g. Preferred character of medical practice

h. Preferred location of medical practice

These MSIS data elements derive from applications to U.S. medical schools and from questionnaires completed at the time the MCAT was taken. Since responses to some of the questions in these data-gathering forms are optional, the size of the "No Response" group is not the same for all variables. Because the yearly groups of COTRANS participants are rather diversified as to length of foreign medical study and age, it was decided to scan two years rather than just one year for previous applications to U.S. medical schools: 1972-73 plus 1973-74 for 1975 COTRANS participants and 1973-74 plus 1974-75 for the 1976 COTRANS group.

4. Data from Other-than-AAMC Sources

Test data for U.S.-born Foreign Medical Graduates (FMG's) who have completed all or most of their medical education at foreign schools were derived from two sets of publications: Results of ECFMG Examinations (for 1974, 1975, and 1976) and Medical Licensure Statistics (for 1972 and 1973). Extracted ECFMG data were limited to the eight host countries of the larger COTRANS groups for comparisons with Part I, NBME test results from 1972 through 1976. (See METHODOLOGY, Section E for information about "Fifth Pathway" clerkship data and FLEX data.)

B. Major Study Variables

The tables presenting the variables analyzed are divided into four major groups:

1. Historical information (COTRANS participation, USFMS transfers to U.S. medical schools, and U.S. medical school applicant activity)

2. Academic Ability Levels (Part I, NBME, MCAT, and Grade Point Averages)

3. Demographic and Career Choice Characteristics

4. Other-than-AAMC data (ECFMG, Fifth Pathway, and FLEX).

For most tables, actual head counts rather than samples of yearly groups of COTRANS-sponsored examinees were used due to the small N's. Totals distinguish between first-time and repeat examinees where appropriate. Some of the tables are also divided by country of location of foreign medical school, while others show socioeconomic and career choice characteristics by the Part I, NBME pass/fail criteria.

C. Production of Data

Historical tables present information from 1970 through 1976, but academic ability tables focus on information for the five-year period 1972 through 1976. Certain background characteristics compare 1975 versus 1976, and a few selected variables concentrate on the most recent information from the 1976 test year.

Cross tabulations, percentages, mean test scores, standard deviations, and correlation coefficients were produced by utilizing standard statistical computer programs. Special programs were written to determine the confidence intervals for the correlation coefficients and to calculate chi squares. Breakdowns by the Part I, NBME pass/fail criteria for the demographic and career choice

characteristics were accomplished by modifying existing applicant study programs.

D. Statistical Analyses

In addition to the descriptive statistics shown in the tables, several statistical tests were employed to determine whether or not observed differences in the data occurred by chance.

The chi square (χ^2) statistic was utilized for estimates of chance occurrences of relationships of selected categories in the distributions of background characteristics. The results of these chi square tests are shown on the tables concerned and are also discussed in the narrative.

For an Analysis of Variance (ANOVA) among several mean scores by country of location of foreign medical school, an F test was used. The significance of differences between two mean scores was tested with a t statistic. The results of both the t test and the F test are included on appropriate tables and in the discussion.

Correlation coefficients and their corresponding confidence intervals were calculated to test the extent tc which the four MCAT subtests were predictors of Part I, NBME performance for COTRANS candidates examined in 1976. In addition to the r value for the total group, individual r values and their confidence intervals were computed for selected groups of 10 or more students by country of location of foreign medical school. For the MCAT Science subtest, correlation coefficients between Science means and Part I, NBME means are shown for each of the five years from 1972 through 1976.

E. Limitations of Study

1. AAMC Data

The COTRANS application form does not contain information related to eight pertinent background characteristics that is available only from the AAMC Applicant System that is part of MSIS. Therefore, complete data could be retrieved only if the COTRANS participant had (1) applied to U.S. medical schools two to three years earlier, (2) responded to all questions on either the American Medical College Application Service (AMCAS) application form or the MCAT Questionnaire, and (3) signed a release statement. (Nearly all applicants sign this release.)

The question referring to the number of years of medical study completed abroad that was removed from the 1975 COTRANS application form was reinstated for 1976. The significance of this information, however, varies from country to country depending on whether two or more years are required to complete basic science courses. In France, for example, no exemptions are granted for premedical credits completed in the U.S., and all students enter at a level that is equivalent to premedical work. In addition, the USFMS groups taking Part I, NBME include some individuals who have completed four or more years of foreign medical study or who are holders of advanced academic degrees. (The COTRANS application does not request any degree information.) Because of the variety of curriculum structures and class levels at foreign medical schools, plus the diversity in student backgrounds, length of medical study was not considered in this report.

In order to retrieve the background characteristics of COTRANS participants who had also applied to U.S. medical schools two to three years earlier, applicant files were scanned from 1972 through 1974 (see METHODOLOGY, Section A.3). Applicant files for 1971 and 1970 were not used since data accumulated during the conversion from tabulation to tape systems are unreliable. For the years 1969 or earlier, records could not be matched since applicants were identified by unique I.D. numbers rather than social security numbers.

2. Other-than-AAMC Data

Fifth Pathway data were not included in any table since national data are limited to individuals entering GME-I programs at U.S. hospitals and do not specify the number of applicants, passing examinees, or dropouts. Moreover, the 12-14 U.S. and Canadian medical schools offering the Fifth Pathway clerkships utilize various types of screening examinations. This lack of standardization precludes comparisons with test results of other groups.

The Federation Licensing Examination (FLEX) is required by medical boards in all but one state (Florida), but separate FLEX data for U.S.-born FMG's are not available on a national basis. Some state medical boards do not request or do not record citizenship information. Accordingly, FLEX data also were omitted from this study.

III. RESULTS AND DISCUSSION

This Phase II report concentrates on determining similarities or differences in the characteristics of COTRANS-sponsored examinees over time and detecting changes among groups from different countries of location of foreign medical school. The findings are grouped into four main parts:

The first part emphasizes historical and current information on yearly COTRANS participant activity, an overview of Part I, NBME passing percentages, and a summary of yearly USFMS transfers to U.S. medical schools. The second presents detailed academic ability information related to Part I, NBME test performance by pass/fail, subject area, first-time and repeat status, and by sex. In addition, undergraduate grade point averages and mean scores from the Medical College Admission test are compared.

The third part summarizes and compares geographic, biographic, socioeconomic, and career choice characteristics of 1975 with 1976 COTRANS participants who had also applied to U.S. medical schools two to three years earlier, and the fourth discusses USFMS and USFMG re-entry programs of other agencies and presents selected comparative test performance data and licensing information.

Although data from some of the other-than-AAMC programs were either not available or not appropriate for comparison, the function and background of these programs are described in some detail to place the COTRANS program in perspective.

A. Historical and Current Information

1. COTRANS-Sponsored Examinees

The yearly totals of USFMS applicants who were sponsored by COTRANS for Part I, NBME and tested by the National Board of Medical Examiners are summarized in Table 1.

TABLE 1

Summary of Applicant and Part I, NBME Testing Activity Of COTRANS-Sponsored Examinees, 1970 Through 1976

Year (1)	Number of Applicants Sponsored (2)	Number Tested (3)	Number Passed (4)	Percent Passed (5)
1970	285	270	77	28.5
1971	580	437	102	23.3
1972	807	676	215	31.8
1973	1,046	957	292	30.5
1974	1,126	810	358	44.2
1975	799	664	377	56.8
1976	1,044	852	459	53.9

The largest number sponsored (1,126) occurred in 1974, while the highest number tested (957) dates back to 1973 when 92 percent of the sponsored candidates sat for this two-day examination. In more recent years larger proportions (17 to 28 percent) of sponsored COTRANS candidates did not show up for the Part I, NBME examination--usually due to conflicts with test dates at their schools. In 1975, both the sponsored and tested totals declined sharply due to the curtailment of permission for first-year students at the Universidad Autonoma de Guadalajara to take Part I, NBME, which is designed to test two years of basic medical sciences.

Part I, NBME passing percentages generally show an upward trend from 1973 through 1975 with a small (2.9 percentage-point) decline in 1976. Numerically, however, the 1976 passing group reflects a 21.8 percent increase over 1975. On the whole, there has been a substantial improvement in the pass rates since the early years of the COTRANS program. Nevertheless, even the improved COTRANS passing percentages of 56.8 and 53.9 for 1975 and 1976 respectively do not approach the pass rates of the candidate group from U.S. medical schools for the same years.

2. USFMS Admissions to U.S. Medical Schools

Advanced standing admissions of U.S. citizen students from foreign medical schools are shown by class level in Table 2. These totals were derived from annual AAMC fall enrollment survey forms completed by all U.S. medical schools. The largest number of advanced standing admissions from foreign medical schools, 373, occurred in 1976 and represents an increase of 130 (54 percent) over 1975 (Figure 1). If one adds the USFMS admissions who were not sponsored by COTRANS these two years (28 in 1975 and 85 in 1976), the 1976 increase over 1975 amounts to 69 percent. This gain was accomplished by 46 (40 percent) of the 116 U.S. medical schools.

In the past, non-COTRANS sponsorships for Part I, NBME were granted by individual medical schools to about 200 USFMS's each year. This total accelerated sharply after the Universidad Autonoma de Guadalajara Medical School established a two-year minimum course requirement for transfer applicants. The impact of this restriction amounted to individual sponsorships in 1976 that exceeded those of the COTRANS program.[4]

While it was rare in past years for individual U.S. medical schools to admit 10 or more USFMS transfers, 16 of the 45 schools reported totals ranging from 10 to 81 in the fall of 1976. This compares with 9 schools reporting double-digit USFMS transfer totals in 1975. The largest single increase by state was noted for New York medical

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[4] Minutes of October 26, 1976 "Meeting Regarding Registration of Part I Evaluation Examinees" at NBME.

TABLE 2

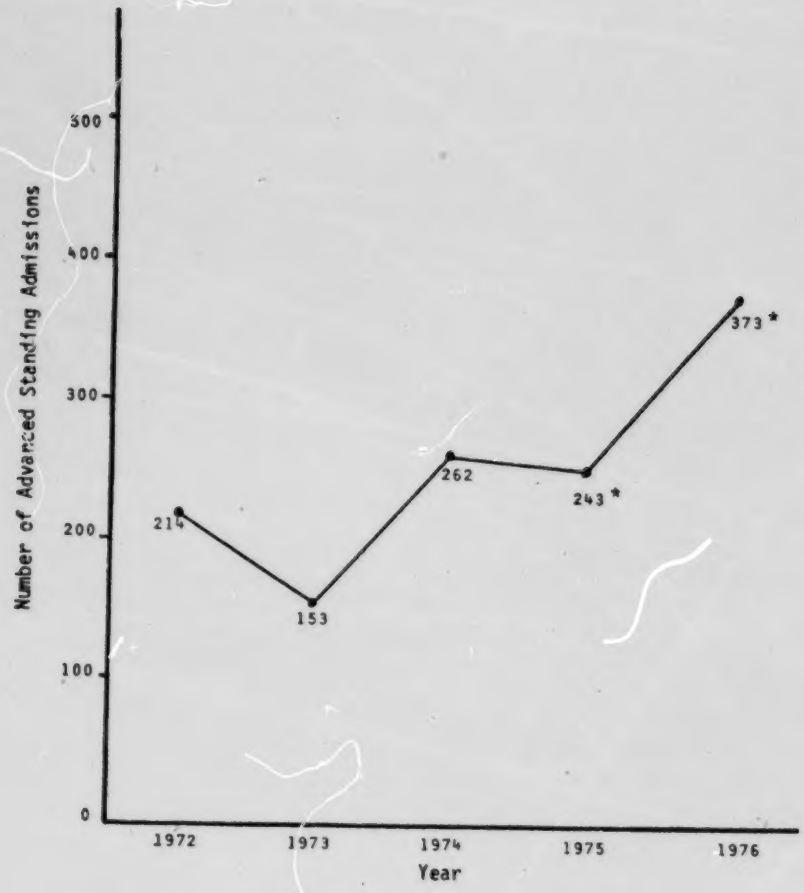
Summary of Admissions of COTRANS-Sponsored Examinees
1970 Through 1976

Year	Number of U.S. Medical Schools*	U.S. Medical Schools Admitting Transfers		Admission Year of Accepted COTRANS Applicants			Total per Year†
		Number	Percent	2nd Year	3rd Year	4th Year	
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
1970	103	38	36.9	12	70	0	82
1971	108	35	32.4	25	90	0	115
1972	112	32	28.6	36	167	11	214
1973	114	36	31.6	34	115	4	153
1974	114	44	38.6	85	169	8	262
1975	114	41	36.0	42	201	0	243§
1976	116	46	39.7	64	304	5	373§

*Includes developing schools and basic science programs not granting M.D. degrees.

†Source: AAMC Fall Enrollment Questionnaires.

§Additional students admitted (28 in 1975 and 85 in 1976) were sponsored for Part I of the NBME examinations by U.S. medical schools.



* Additional students were sponsored for Part I, NBME by U.S. medical schools (28 in 1975 and 85 in 1976).

FIGURE 1

Admission to Advanced Standing at U.S. Medical Schools of COTRANS-Sponsored Examinees, 1972 Through 1976.

schools where USFMS transfers accelerated by 125 percent, from 85 in 1975 to 191 in 1976.

The yearly admission totals shown in Table 2 comprise COTRANS-sponsored examinees, but the reader should be aware that not all of these individuals took Part I, NBME during the same year they were admitted. Some may have been tested one or two years prior to admission, while others may have been September examinees who were not eligible for advanced-standing admission during the same calendar year they were tested. In addition, a few second-year admissions may not have had passing total scores but subject scores in anatomy, physiology, and biochemistry (the three first-year basic sciences) that were sufficiently high to qualify them for transfer. Because of this variety of circumstances, it is not possible to calculate valid admission percentages based on passing examinee totals in any given year.

3. Applicants to U.S. Medical Schools

Over the years that the COTRANS Program has assisted USFMS transfer students (1970 through 1976), applicants to U.S. medical schools for the corresponding years (1968 through 1974) increased by 102 percent while acceptances rose by 49 percent (derived from Table 3). Although not specifically defined in Table 3, these years were accompanied by a 150 percent increase in the non-accepted portion of the U.S. medical school applicant pool.

About 26 percent of those who were not accepted repeat their applications to U.S. medical schools and ultimately 27 percent (of the 26 percent) are successful.[5] The majority, on the other hand, are confronted by the difficult decision of (1) entering a U.S. graduate school program with hopes for a possible future transfer to medical school, (2) changing their career goal to another profession, or (3) going abroad in pursuit of their original plans for a career in medicine. According to a follow-up study on a sample of unaccepted U.S. medical

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[5] W. F. Dubé and D. G. Johnson, Study of U.S. Medical School Applicants, 1974-75, Journal of Medical Education 51(1976):880.

TABLE 3

Summary of Application Activity of Applicants to U.S. Medical Schools
1968-69 Through 1976-77

First-Year Class	Number of Medical Schools	Number of Applicants	Number of Applications	Applications per Individual	Accepted Applicants	Number of Applicants per Acceptance	First-Year Enrollment*	Percent of Total Applicants Accepted
1968-69	99	21,118	112,195	5.31	10,092	2.09	9,863	47.9
1969-70	101	24,465	133,822	5.46	10,547	2.31	10,422	43.1
1970-71	103	24,987	148,797	5.95	11,500	2.17	11,348	46.0
1971-72	108	29,172	210,943	7.23	12,335	2.36	12,361	42.3
1972-73	112	36,135	267,306	7.40	13,757	2.63	13,677	38.1
1973-74	114	40,506	328,275	8.10	14,335	2.83	14,159†	35.4
1974-75	114	42,624	362,376	8.50	15,066	2.83	14,763§	35.3
1975-76	114	42,303	366,040	8.65	15,365	2.75	15,295	36.4
1976-77	116	42,155	372,282	8.83	15,774	2.67	15,613	37.4

*Includes previously enrolled students.

†Variations from previously published total reflect late reports.

§Total does not include an additional first-year class of 157 students admitted to New York Medical College in the spring of 1975.

Source: AAMC annual studies of U.S. medical school applicants; data for first-year enrollment from AAMC annual Fall Enrollment Questionnaires.

school applicants to the 1971-72 first-year class, only "half remain in the health area."[6]

The estimate of 6,000 USFMS's in foreign medical schools cited in the Phase I report and in other literature[7] on this topic still applies. Since foreign medical schools are not obligated to report statistics on U.S. citizens who apply and/or enroll in their institutions to U.S. authorities, data will necessarily be limited to information about such groups as COTRANS candidates attempting to transfer, ECFMG candidates wishing to be certified, and USFMG recipients of licenses to practice medicine in the United States.

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[6] Carol S. Weisman et al., Unaccepted Applicants to Medical School as a Health Resource, Medical Care 14(1976):512.

[7] Coordinating Council on Medical Education, Physician Manpower and Distribution: The Role of the Foreign Medical Graduate (see footnote p.1).

B. Academic Ability Levels

1. Part I, NBME Participation

a. First-Time and Repeat Examinees: The largest number of first-time COTRANS-sponsored examinees, 731, occurred in 1973 while repeat examinees peaked in 1975 (Table 4).

TABLE 4

Comparative Pass Rates for First-Time and Repeat COTRANS-Sponsored Examinees, Part I, NBME Examinations 1972 Through 1976

Category	1972	1973	1974	1975	1976
All Examinees					
No. Tested	676	957	810	664	852
No. Passed	215	292	358	377	459
Percent Passed	31.8	30.5	44.2	56.8	53.9
First-Time Examinees					
No. Tested	595	731	561	401	659
No. Passed	162	161	204	197	317
Percent Passed	27.2	22.0	36.4	49.1	48.1
Repeat Examinees					
No. Tested	81	226	249	263	193
No. Passed	53	131	154	180	142
Percent Passed	65.4	58.0	61.8	68.4	73.6

The annual proportions of test repeaters ranged from 12 percent in 1972 to 40 percent in 1975. The 1976 group of 23 percent approximated the 24 percent repeaters in 1973. Over the five years, the passing percentages of first-time examinees show a general upward trend but remain under the 50 percent level. Comparable passing percentages of repeaters exceeded 50 percent each year and reached an all time high of 73.6 percent in 1976.

Although students are aware from the COTRANS brochure that Part I, NBME may be taken only three times, some of the first-time candidates appear to request sponsorship merely for the purpose of becoming acquainted with this test. Considering that tests at foreign medical schools usually consist of essay and oral examinations, USFMS candidates may have an extra reason for wanting experience with the multiple choice format of Part I, NBME. The increasingly successful pass rates of repeat examinees often reflect improved preparation through self-study from American medical textbooks.

b. Examinees by Sex: Yearly groups of COTRANS-sponsored examinees consisted predominantly of men (Table 5). The numbers of women are increasing but still represented less than 10 percent of the COTRANS group in 1976.

TABLE 5

Comparative Pass Rates, by Sex, for COTRANS-Sponsored Examinees, Part I, NBME Examinations, 1972 Through 1976

Category	1972	1973	1974	1975	1976
All Examinees					
No. Tested	676	957	810	664	852
No. Passed	215	292	358	377	459
Percent Passed	31.8	30.5	44.2	56.8	53.9
Men Examinees					
No. Tested	656	917	773	606	771
No. Passed	211	287	342	353	429
Percent Passed	32.2	31.3	44.2	58.3	55.6
Women Examinees					
No. Tested	20	40	37	58	81
No. Passed	4	5	16	24	30
Percent Passed	20.0	12.5	43.2	41.4	37.0

From the viewpoint of passing Part I, NBME, women examinees generally had lower pass rates than men. In 1974, however, the difference between these pass rates was only one percentage-point.

c. Examinees by Country of Foreign Medical School: In the five-year interval from 1972 through 1976, the proportions of COTRANS candidates per host countries have undergone some interesting changes (Table 6). Whereas 75 percent of the yearly groups in 1973 and 1974 had studied medicine in Mexico, this percentage decreased to 43 and 40 percent by 1975 and 1976, respectively. Other countries, mainly Belgium, Italy, France, and the Philippines, apparently increased U.S. admissions to the extent that they accounted for more than half of all COTRANS candidates in 1975 and 1976. Most Swiss medical schools discontinued admissions from industrialized nations in 1974.[8] Decreasing numbers of USFMS's attended medical schools in Spain probably because of political unrest that resulted in the closing of some medical schools in that country.

Although most of the American students continue to be concentrated in a few host countries, the overall totals of medical schools and of foreign countries involved have expanded. In 1972, for example, COTRANS candidates listed 41 medical schools in 15 countries. By 1975, these totals rose to 67 schools in 21 countries and increased again in 1976 to 88 medical schools in 25 foreign countries. Over the five-year period, the number of foreign medical schools attended by USFMS's more than doubled, and the number of countries increased by two-thirds.

The five-year trend of passing percentages was generally upward for host countries. The percentages were in or near the fifties and sixties in 1975 and 1976 for all groups listed except for those from the Dominican Republic, Spain, and from countries in the "Other" category. Rankings of pass rates were affected in 1976 by the absence of Switzerland, which traditionally occupied the first position but was included in the "Other" category in that year.

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[8] Geneva Medical School, 1974: personal communication.

TABLE 6

Test Performance of COTRANS-Sponsored Examinees
Part I, NBME, by Country of Foreign Medical School, 1972 Through 1976

	1972	1973	1974	1975	1976
Total					
No. Tested	676	957	810	664	852
No. Passed	215	292	358	377	459
Percent Passed	31.8	30.5	44.2	56.8	53.9
Belgium					
No. Tested	71	76	54	120	134
No. Passed	28	32	37	73	79
Percent Passed	39.4	42.1	68.5	60.8	59.0
Rank	4	4	2	3	2
Dominican Republic					
No. Tested	--*	--*	7	14	25
No. Passed	--	--	0	1	3
Percent Passed	--	--	0.0	7.1	12.0
Rank	--	--	8	8	6
France					
No. Tested	14	13	16	39	92
No. Passed	5	5	4	20	42
Percent Passed	35.7	38.5	25.0	51.3	45.7
Rank	5	5	7	5	5
Italy					
No. Tested	47	71	43	88	126
No. Passed	21	36	26	51	78
Percent Passed	44.7	50.7	60.5	58.0	61.9
Rank	2	3	3	4	1
Mexico					
No. Tested	464	714	604	286	341
No. Passed	133	185	251	176	196
Percent Passed	28.7	25.9	41.6	61.5	57.5
Rank	6	7	5	2	4
Philippines					
No. Tested	9	19	27	51	74
No. Passed	4	11	13	26	43
Percent Passed	44.4	57.9	48.1	51.0	58.1
Rank	3	2	4	6	3
Spain					
No. Tested	43	37	23	23	17
No. Passed	8	10	7	6	1
Percent Passed	18.6	27.0	30.4	26.1	5.9
Rank	7	6	6	7	7
Switzerland					
No. Tested	7	10	15	18	--*
No. Passed	7	9	14	15	--
Percent Passed	100.0	90.0	93.3	83.3	--
Rank	1	1	1	1	--
Other					
No. Tested	21	17	21	25	43
No. Passed	9	4	6	9	17
Percent Passed	42.9	23.5	28.6	36.0	39.5
Rank	--	--	--	--	--

*Fewer than 5 were tested.

2. Part I, NBME Test Performance

a. Passing Total Test Scores: Mean scores and standard deviations of the yearly groups of COTRANS-sponsored examinees and of those who passed are given in Table 7 for the total test and for each subject area. The overall trend for total test scores was upward for the five-year period. The highest passing mean total score was 489 in 1975, which exceeded the passing mean of 1972 by 25 points. Comparable means for 1974 and for 1976 showed small negative differences from 1975 of 7 and 6 points respectively. In 1976, the passing mean of 483 was 17 points below the mean of 500 of the U.S. medical school Candidate Reference Group. The difference in passing means for the five-year period, 1972 through 1976, amounted to 19 points and was statistically significant, $t=-3.20$, $(p<.01)$.

b. Test Scores by Subject Area: By subject area, the mean scores of the 1976 passing COTRANS group were slightly below those of 1975. Biochemistry was the only subject in which 1976 COTRANS examinees attained a passing mean score of 500, which equals the mean of the norm group of candidates from U.S. medical schools. In four of the five COTRANS years from 1972 through 1976, the highest passing subject mean score was achieved in Biochemistry. The exception was 1975, when the Microbiology mean score (507) topped Biochemistry (506). The lowest passing mean score was consistently recorded in Behavioral Science, a subject area that was added to Part I, NBME in 1973.

c. Test Scores by Sex: Passing mean scores and standard deviations by sex, from 1972 through 1976, are presented in Table 8. In four of the five years analyzed, 1973 through 1976, men attained higher mean scores than women for the total Part I, NBME test and also in most subject areas. Exceptions were noted for 1974 when women candidates scored higher than men in Microbiology (503 versus 493) and had equal scores in Pharmacology (496). Even in Behavioral Science, the one subject area that was in favor of women in two consecutive years (1974 and 1975), men scored slightly higher in 1976 (468 versus 462). For both men and women, the highest mean scores for the total test were recorded in 1975.

The greatest differences between the passing mean scores of COTRANS-sponsored men and women candidates occurred in 1976 for the total test (35 points),

TABLE 7

Mean Scores Part I, NBME Examinations of COTRANS-Sponsored Examinees
1972 Through 1976

Subject	1972		1973		1974		1975		1976	
	All N=676	Pass N=215	All N=957	Pass N=292	All N=810	Pass N=358	All N=664	Pass N=377	All N=852	Pass N=459
Total*	312	464	312	467	356	482	392	489	381	483
S.D.	131	69	130	71	138	75	138	78	137	73
Anatomy	361	479	369	469	388	487	436	499	415	489
S.D.	128	71	121	74	128	77	121	82	120	75
Physiology	362	473	362	476	384	484	419	494	422	492
S.D.	123	64	126	71	130	74	129	77	118	75
Biochemistry	396	490	392	495	425	510	442	506	423	500
S.D.	132	77	130	80	138	81	128	79	130	78
Pathology	281	473	291	474	327	485	368	488	379	495
S.D.	136	68	139	73	153	78	147	72	149	77
Microbiology	320	478	311	474	365	493	414	507	402	489
S.D.	132	71	140	72	145	80	143	82	127	71
Pharmacology	346	488	331	486	385	496	395	501	395	498
S.D.	136	78	134	80	135	82	146	78	142	78
Behavioral Science†	--	--	349	459	377	473	386	468	375	467
S.D.	--	--	114	64	117	68	118	65	122	62

*Minimum standard score required to pass total test = 380.
Mean standard score for total test and each subject = 500.
Standard deviation for total test and each subject = 100 (from Norm Tables for Part I, NBME).
N's stated on this table apply to the total test; N's vary for each subject area -- see note on Table 8 for further details.

†Behavioral Science was added to Part I, NBME in 1973.

t-test for passing mean total scores 1972 versus 1976 = -3.20, $p<.01$.

TABLE 8

Mean Scores Part I, NBME Examinations of Passing COTRANS-Sponsored Examinees
By Sex and by Subject, 1972 Through 1976

	1972		1973		1974		1975		1976	
Passing Examinees*	Men N=212	Women N=4	Men N=287	Women N=5	Men N=342	Women N=16	Men N=353	Women N=24	Men N=429	Women N=30
All Examinees	464	446	467	458	483	470	490	472	486	451
S.D.	69	59	70	117	75	78	78	77	74	50
Anatomy	480	451	469	469	488	459	501	473	492	448
S.D.	71	6	74	90	78	46	83	70	75	67
Physiology	473	478	477	445	485	452	498	453	495	440
S.D.	64	100	71	71	74	61	76	72	75	55
Biochemistry	496	498	495	482	511	488	507	488	501	483
S.D.	77	90	80	76	81	74	79	66	79	63
Pathology	472	510	475	461	486	466	489	476	496	478
S.D.	68	113	73	88	78	71	71	82	78	63
Microbiology	478	509	475	444	493	503	508	494	492	464
S.D.	70	95	72	72	79	107	82	88	71	71
Pharmacology	489	449	487	453	496	496	503	473	500	477
S.D.	78	78	80	89	83	55	78	83	78	59
Behavioral Science	--	--	460	444	472	483	467	480	468	462
S.D.	--	--	64	53	67	86	65	57	62	53

*Minimum standard score required to pass total test = 380. N's vary with subject area. For the purposes of this report, 380 was considered as passing. For example, in 1975 the N's for men and women who passed Anatomy were 425 and 31, respectively. The N's shown on this table represent examinees who passed the total test.

t-test for 1976 passing mean total scores, men versus women: $t = 2.55$, $p<.01$.

Physiology (55 points), and Anatomy (44 points). These differences somewhat parallel the test results of 1975 for Physiology (45 points) and Anatomy (28 points) but not for the total test (18 points). In all of these comparisons, it must be kept in mind that women candidates represent only five to ten percent of the COTRANS-sponsored test population. The 35 point difference between the 1976 passing mean total scores of men versus women COTRANS candidates was found to be significant ($t=2.55$, $p<.01$).

Mean test scores by sex for all examinees, regardless of the passing criterion, also moved in an upward direction over the five years reviewed (Table 9). Although there was a slight decline in 1976 over 1975, the 1976 means of men examinees were above those of the other years. Mean scores of women for the total test as well as some of the subject areas were better in 1975 than in 1976 with the exception of Pathology. Nevertheless, the means of the total test of both groups are more than one standard deviation below the mean of the norm reference group of candidates from U.S. medical schools. For the mean total Part I, NBME scores of all 1976 men (388) versus all women (318) COTRANS candidates, the t-test showed the differential of 70 points to be significant, $t=4.42$, $p<.01$.

d. Distribution of Passing Scores by Country: Passing scores of COTRANS-sponsored examinees were divided into score intervals by the standard deviations of 100 of the U.S. medical school Candidate Reference Group (Table 10). Although these distributions show that more examinees scored below the mean of 500 than above, it is noteworthy that the proportions of the higher scores advanced from 28 percent in 1972 to 38 percent in 1976 (derived from Table 10). Conversely, the proportions of scores in the 20 point interval between the minimum passing score of 380 and 400 decreased from 21 percent in 1972 to 14 percent in 1976.

By country of location of medical school, the overall trend of increasing frequencies of scores above the mean was followed by France, Italy, Mexico and the Philippines. Of the passing students from Mexico, for example, the proportions above the mean of 500 changed from 26 percent in 1972 to 40 percent in 1976. A quite different pattern was noted for Belgium that began with 32 percent in 1972, peaked at 43 percent in 1973 and declined to 28 percent in 1976.

TABLE 9

Mean Scores Part I, NBME Examinations of All COTRANS-Sponsored Examinees
By Sex and by Subject, 1972 Through 1976

All Examinees*	1972		1973		1974		1975		1976	
	Men N=656	Women N=20	Men N=917	Women N=40	Men N=773	Women N=37	Men N=606	Women N=58	Men N=771	Women N=81
Total Test	313	280	314	268	356	341	397	338	388	318
S.D.	131	108	130	116	138	137	136	145	136	129
Anatomy	362	309	371	318	390	345	441	387	421	353
S.D.	129	98	120	123	129	109	120	118	120	106
Physiology	363	311	364	297	386	339	425	356	429	354
S.D.	123	110	126	109	130	113	126	137	118	98
Biochemistry	396	375	394	351	426	400	446	399	429	362
S.D.	133	121	129	137	138	126	127	130	129	126
Pathology	282	249	292	267	326	340	372	321	383	342
S.D.	136	130	140	120	154	145	145	157	149	149
Microbiology	321	302	313	283	364	375	419	369	407	359
S.D.	133	130	141	125	145	156	142	153	126	121
Pharmacology	346	325	333	293	386	374	401	338	401	334
S.D.	137	116	134	115	136	131	145	146	141	133
Behavioral Science	--	--	350	344	376	406	386	382	377	351
S.D.	--	--	114	112	116	134	118	123	120	132

*Minimum standard score required to pass total test = 380.
Mean standard score for total test and each subject = 500; standard deviation = 100 (from Norm Tables for Part I, NBME).

t-test for 1976 mean total scores, total men versus total women: $t = 4.42$, $p<.01$.

TABLE 10

Distribution of Total Passing Scores of Part I, NBME Examinations
Of COTRANS-Sponsored Examinees, by Country of Location
Of Foreign Medical School, 1972 Through 1976

Country		Number of Passing Examinees	Total Score Intervals				
			380-400	401-500	501-600	601-700	701-800
All Passing Examinees*	1972	215	46	108	51	10	--
	1973	292	51	164	60	17	--
	1974	358	59	176	93	30	--
	1975	377	42	194	107	30	4
	1976	459	66	217	147	28	1
Belgium	1972	28	4	15	7	2	--
	1973	32	4	17	8	3	--
	1974	37	4	22	10	1	--
	1975	73	7	35	23	7	1
	1976	79	16	41	19	3	--
Dominican Republic	1975	1	1	--	--	--	--
	1976	3	3	--	--	--	--
France	1972	5	2	3	--	--	--
	1973	5	2	2	1	--	--
	1974	4	1	--	2	1	--
	1975	20	2	11	6	1	--
	1976	42	5	22	12	3	--
Italy	1972	21	3	9	8	1	--
	1973	36	7	16	11	2	--
	1974	26	3	11	9	3	--
	1975	51	2	25	18	5	1
	1976	78	6	38	30	4	--
Mexico	1972	133	34	65	29	5	--
	1973	185	33	112	33	7	--
	1974	251	47	125	58	21	--
	1975	176	18	91	54	11	2
	1976	196	28	90	62	15	1
Philippines	1972	4	--	3	1	--	--
	1973	11	2	7	1	1	--
	1974	13	2	5	5	1	--
	1975	26	9	12	3	2	--
	1976	43	5	19	17	2	--
Spain	1972	8	1	5	2	--	--
	1973	10	3	4	2	1	--
	1974	7	--	2	3	2	--
	1975	6	1	5	--	--	--
	1976	1	1	--	--	--	--
Switzerland	1972	7	1	3	3	--	--
	1973	9	--	3	4	2	--
	1974	14	2	7	4	1	--
	1975	15	1	9	2	3	--
	1976	2	--	1	1	--	--
Other	1972	9	1	5	1	2	--
	1973	4	--	3	--	1	--
	1974	6	--	4	2	--	--
	1975	9	1	6	1	1	--
	1976	15	2	6	6	1	--

*Minimum standard score required to pass total test = 380.

e. Passing Scores by First-Time and Repeat: In contrast to 1975, repeating COTRANS-sponsored examinees who passed in 1976 attained slightly higher Part I, NBME test scores than first-time examinees (Table 11). Although the overall gain amounted to only 4 points for the total repeating group, the increments were higher for groups from some individual countries: Belgium, 15 points; France, 24 points; Italy, 44 points and the Philippines, 3 points. As in 1975, the 1976 mean scores of repeaters from Mexican medical schools (482) were below those of first-time examinees (485).

While none of the mean scores of the 1976 total passing group were above the mean of 500 (of the U.S. medical school Candidate Reference Group), repeat examinees from Italian medical schools achieved a mean total score of 535. This compares with a repeating mean total score of 526 in 1975. The only other 1976 examinees above the mean of 500 were first-time candidates from medical schools grouped under "Other." The overall proportion of passing COTRANS candidates who were test repeaters in 1976 (31 percent) was considerably below that of 1975 (48 percent).

3. Correlations of MCAT Science and Part I, NBME

a. Total Groups by Year: Because the MCAT Science subtest is generally considered as a predictor of success or failure in basic science courses in medical school, correlations between MCAT Science scores and Part I, NBME scores were calculated for the five COTRANS groups of 1972 through 1976 (Table 12). Although the numbers of paired observations represent somewhat lower yearly totals, depending on the availability of test scores from both tests, the results for the total groups are remarkably uniform. The correlation coefficients show an upward trend, from .37 for 1972 to .44 in 1975 and 1976, reflecting improvements in both mean MCAT scores and mean Part I, NBME scores. The confidence intervals for all years exclude zero and thus indicate positive correlations between these two tests. For the 30 point difference between the mean MCAT Science scores of COTRANS candidates of 1972 versus 1976 the result of the t-test was significant ($t=-6.53$, $p<.01$).

b. Groups by Country of Foreign Medical School: By country of medical school, the 1976 r values for Italy,

TABLE 11

Mean Scores of Passing COTRANS-Sponsored Examinees Part I, NBME, 1976
By First-Time and Repeat Status and by Country of Foreign Medical School

Country	Passing Examinees			First-Time			Repeaters		
	Number	Percent	Total Mean Score	Number	Percent	Mean Score	Number	Percent	Mean Score
Total Passing	459	100.0	483	317	100.0	482	142	100.0	486
Belgium	79	17.2	467	48	15.1	461	31	21.8	476
Dominican Republic	3	0.7	393	3	.9	393	--	--	--
France	42	9.2	483	28	8.8	475	14	9.9	499
Italy	78	17.0	498	65	20.5	491	13	9.2	535
Mexico	196	42.7	484	131	41.3	485	65	45.8	482
Philippines	43	9.4	488	31	9.8	487	12	8.5	490
Other	18	3.9	491	11*	3.5	515	7†	4.9	453

*Includes: India, 2; Iran, 1; Ireland, 3; Lebanon, 2; Romania, 1; Switzerland, 1; Yugoslavia, 1.

†Includes: Argentina, 1; Iran, 4; Spain, 1; Switzerland, 1.

TABLE 12

Correlation Coefficients Between MCAT Science Scores
And Part I, NBME Examinations Total Scores of COTRANS-Sponsored Examinees, 1972-1976

	Individuals				Test Data					
	All Examinees		Examinees with MCAT		MCAT Scores Science		Part I, NBME Total Scores		r	95 Percent Confidence Interval*
Year	No.	Percent	No.	Percent of Total	Mean	S.D.	Mean	S.D.		
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
1972	676	100.0	547	80.9	513	82	315	125	.37	.30 - .44
1973	957	100.0	710	74.2	513	87	326	129	.35	.29 - .42
1974	810	100.0	681	84.1	516	86	361	137	.40	.33 - .46
1975	664	100.0	421	63.4	531	85	401	140	.44	.36 - .52
1976	852	100.0	791†	92.8	543	83	389	133	.44	.38 - .50

*All were statistically significant.

†1976 MCAT Science mean varies from Table 14 due to different N.

t-test for mean MCAT Science scores, 1972 versus 1976: $t = -6.53$, $p<.01$.

.46; Mexico, .43; and the Philippines, .49, were comparable to the correlation coefficient of .44 of all 1976 COTRANS-sponsored examinees (Table 13). The lowest set of mean MCAT Science and Part I, NBME scores was recorded for the Dominican Republic (Figure 2). The resulting r value of .69 tends to confirm the predictor role of the MCAT Science test; low MCAT Science scores are forerunners of low Part I, NBME scores. Conversely, a similar r value, such as the coefficient of .65 for Switzerland in 1975, reflects that higher MCAT Science scores are usually followed by above-average Part I, NBME scores. In both cases, nevertheless, admission selectivity and the quality of medical education received affect the relationships between the two tests.

In addition, the variability between the U.S. student groups from the major host countries was tested and an F ratio of 43.59 ($p<.05$) was obtained. Since the differences between mean Part I, NBME scores were statistically significant, one can conclude that these groups differed in academic achievement at exit.

c. Other MCAT Subtests and Part I, NBME: Correlations between the other three MCAT subtests, (Quantitative .33, Verbal Ability .30, and General Information .25) and Part I, NBME were also calculated and found to be statistically significant at the .001 level. The coefficients for 1976 closely resembled those reported for 1975 and were again slightly above the comparable r values (.28, .19, and .16 respectively) reported by Sedlacek for students at U.S. medical schools.[9] At the 95 percent level of confidence, the 1976 r values for these three MCAT subtests fell within the following intervals: Quantitative, .26 - .39; Verbal Ability, .23 - .36; and General Information .18 - 31. Thus, a modest but statistically significant correlation between other-than-Science MCAT subtests and Part I, NBME is evident for COTRANS candidates.

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[9] W. E. Sedlacek, ed., Medical College Admission Test: Handbook for Admissions Committees, 2nd ed. (Evanston, Ill.: Association of American Medical Colleges, 1967).

TABLE 13

Correlation Coefficients Between MCAT Science Scores
And Part I of 1976 NBME Examinations Total Scores of All COTRANS-Sponsored Examinees
By Country of Foreign Medical School*

	Individuals				Test Data					
	All Examinees		Examinees with MCAT		MCAT Scores Science		Part I, NBME Total Scores			95 Percent Confidence
Country	No.	Percent	No.	Percent	Mean	S.D.	Mean	S.D.	r	Interval
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
Total	852	100.0	791	100.0	543†	83	389	133	.44	.38 - .50
Belgium	134	15.7	129	16.3	567	72	395	106	.22	.05 - .39
Dominican Republic	25	2.9	21	2.7	427	92	174	123	.69	.36 - .87
France	92	10.8	88	11.1	567	70	373	121	.29	.08 - .48
Italy	126	14.8	121	15.3	536	75	420	126	.46	.30 - .59
Mexico	341	40.0	319	40.3	536	85	400	130	.43	.34 - .52
Philippines	74	8.7	70	8.8	556	80	402	130	.49	.29 - .65
Spain	17	2.0	8	1.0	474	114	212	141	.56	-.26 - .91
Other	43	5.0	35	4.4	--	--	--	--	--	--

*Countries with 10 or more students are shown individually. "Other" countries are shown in footnote on Table 11.

†1976 MCAT Science mean varies from Table 14 due to different N.

$F = 43.59$ (7,783df), $p<.05$.

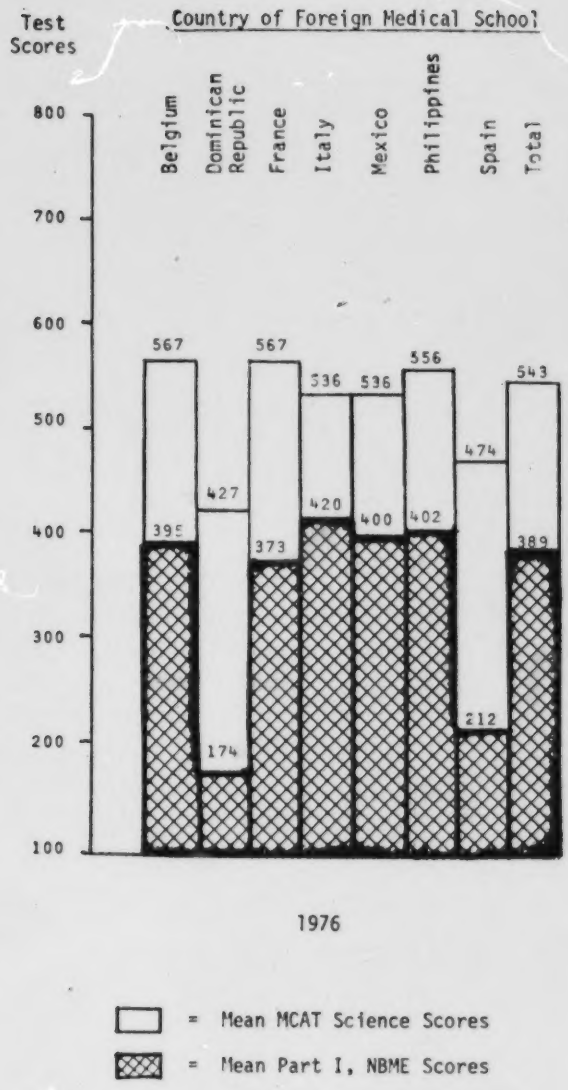

FIGURE 2

Comparative Test Performance in Terms of Mean Scores, MCAT Science and Part I, NBME, of All COTRANS-Sponsored Examinees by Country of Foreign Medical School, 1976.

4. Undergraduate Academic Background

a. MCAT Science Scores: The five-year trend of mean MCAT Science scores was upward from 543 in 1972 to 573 in 1976 for those COTRANS candidates who passed Part I, NBME (Table 14). The corresponding Part I, NBME mean scores of passing COTRANS candidates rose from 464 (1972) to 489 (1975), but lost 6 points in 1976 (Figure 3).

In comparing the MCAT Science means of the yearly passing COTRANS groups with the comparable means of accepted applicants to U.S. medical schools two years earlier, the differences (in favor of the latter group) fluctuated from 15 points in 1972 to 39 points in 1975 and to 30 points in 1976. It is interesting to note that the MCAT Science mean of the 1976 passing COTRANS group (573) parallels that of U.S. medical school applicants (575) who were accepted to the 1972-73 first-year class. For the total COTRANS groups, however, the difference between their Science mean and that of accepted U.S. medical school applicants of corresponding years amounted to more than one-half of a standard deviation each year.

b. Undergraduate Grade Point Averages: For the years grade point averages were available, those of COTRANS candidates were consistently below the GPA's of accepted and also of non-accepted applicants to U.S. medical schools. Since this cumulative average reflects undergraduate performance over a four-year period in contrast to the one-time test results from the MCAT, the GPA may have contributed more than the MCAT toward the initial rejection of COTRANS candidates by U.S. medical schools when they applied for first-year places in the past. (MCAT Science means of all COTRANS candidates were slightly above those of all non-accepted applicants to U.S. medical schools.)

C. Demographic and Career Choice Data

This section covers a wide variety of background information on characteristics and trends related to geographic origin, age distributions, racial/ethnic self-description, parental income, father's occupation, and career plans of COTRANS-sponsored examinees. As mentioned in the Methodology section of this report, data for

TABLE 14

Comparison of Mean MCAT Science Scores and Mean Grade Point Averages Of COTRANS-Sponsored Examinees Who Applied to U.S. Medical Schools, by Pass/Fail Part I, NBME, 1972 Through 1976 With Applicants to U.S. Medical Schools, First-Year Classes, 1970-71 Through 1974-75

Category	1972		1973		1974		1975		1976	
	MCAT Science	Total GPA	MCAT Science	Total GPA	MCAT Science	Total GPA	MCAT Science	Total GPA	MCAT Science	Total GPA
COTRANS-Sponsored Examinees										
Pass	543	N/A	541	N/A	543	2.78	553	2.81	573	2.95
S.D.	79		80		79	.35	76	.33	73	.31
Fail	499	N/A	499	N/A	492	2.75	502	2.77	519	2.84
S.D.	80		87		85	.48	87	.37	84	.38
Total	513	N/A	513	N/A	516	2.76	531	2.79	550*	2.91
S.D.	82		87		86	.42	85	.35	83	.34
U.S. Medical School Applicants (2 years earlier)										
	1970-71		1971-72		1972-73		1973-74		1974-75	
Accepted	558	N/A	565	N/A	575	3.32	592	3.38	603	3.45
S.D.	75		79		79	N/A	79	.39	78	.37
Non-Accepted	499	N/A	510	N/A	510	2.86	524	2.95	532	3.05
S.D.	86		89		88	N/A	93	.41	92	.41
Total	527	N/A	534	N/A	536	3.05	548	3.12	558	3.20
S.D.	88		95		92	N/A	94	.46	94	.45

*1976 MCAT Science mean varies from Tables 12 and 13 due to different N of COTRANS candidates who also applied to U.S. medical schools.

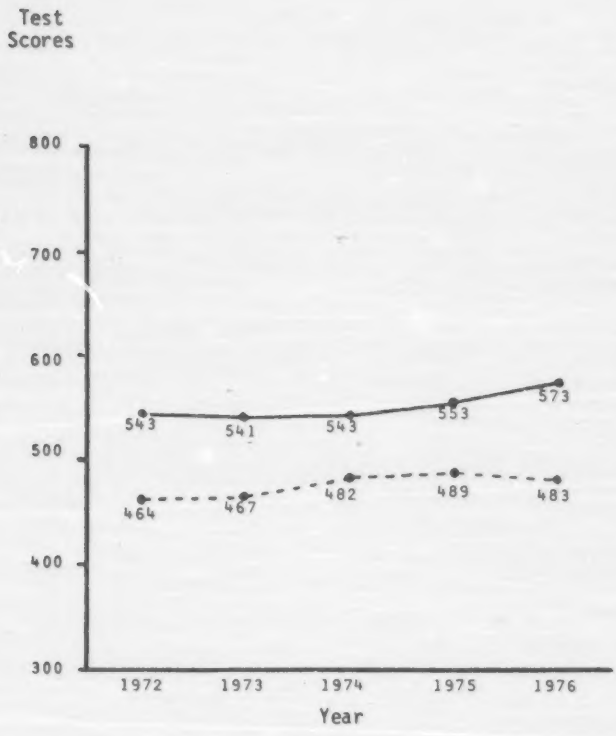

FIGURE 3

Comparative Test Performance in Terms of Mean MCAT Science Scores and Mean Part I, NBME Scores of Passing COTRNAS-Sponsored Examinees, 1972-1976.

socioeconomic profiles and career plans were drawn from the AAMC Applicant File of MSIS. Thus, they represent only those COTRANS candidates who applied to U.S. medical schools two to three years before taking Part I, NBME.

1. State of Residence

Geographically, COTRANS candidates tended to come from heavily populated states (Table 15). The largest contingent of each year's COTRANS group, 32 percent in 1972 and 38 percent in 1976, was from New York State, resulting in a total of 1,347 for the five years shown. At the same time, New Jersey and California supplied 579 and 506 COTRANS candidates respectively. Five additional states--Texas, 166; Pennsylvania, 164; Florida, 159; Illinois, 142; and Ohio, 108--were the home states of more than 100 but fewer than 200 students. Puerto Rico with 95 and Massachusetts with 90 candidates were also among the top ten suppliers for the five-year period.

Because of yearly fluctuations, Connecticut, Arizona, and Maryland ranked among the top ten states in some years but not in all five years. Other states were represented by fewer than 10 or 5 candidates each. The number of states contributing no COTRANS candidates decreased from 15 in 1972 to 12 in 1976. For a detailed yearly breakdown from 1972 through 1976, the reader should refer to Appendix A.

2. Age Distributions

a. Means and Ranges: Recent COTRANS-sponsored examinees tended to be slightly older than their 1972 counterparts (Table 16). Since 1972, the mean ages of all COTRANS candidates (as of April of each test year) increased from 25.1 to 26.2 in 1975 and 1976. The lower boundary changed from age 19 to 21, while the upper boundary fluctuated in the early fifties with the exception of 1973 when the oldest candidate was 58. Mean ages of women candidates were approximately 6-12 months higher than those of men and changed from 25.8 (1972) and 27.5 (1975) back to 26.6 (1976). Women candidates' age ranges, on the other hand, were narrower than those recorded for men, since the upper boundaries were considerably lower and did not exceed age 44 (1976).

TABLE 15

Rank Order of States of Residence Contributing Largest Numbers of COTPANS-Sponsored Examinees, 1972 Through 1976

State or Territory*	All Years		1972		1973		1974		1975		1976	
	Rank†	No.	Rank	No.	Rank	No.	Rank	No.	Rank	No.	Rank	No.
New York	1	1,347	1	216	1	289	1	239	1	277	1	326
New Jersey	2	579	2	125	3	136	3	100	2	92	2	126
California	3	506	3	79	2	157	2	115	3	65	3	90
Texas	4	166	5.5	26	4	54	5	35	9.5	16	5	35
Pennsylvania	5	164	4	40	6	37	7	33	5	24	7	30
Florida	6	159	7	24	8	33	6	34	4	37	6	31
Illinois	7	142	8	23	5	42	4	40	9.5	16	9	21
Ohio	8	108	5.5	26	7	35	8	24	-	9	-	14
Puerto Rico	9	95	-	7	-	12	10.5	15	6	21	4	40
Massachusetts	10	90	10	11	9	19	9	16	7.5	18	8	26
Connecticut	-	71	9	15	-	9	10.5	15	7.5	18	-	14
Maryland	-	51	-	4	-	12	-	11	-	8	10	16
Arizona	-	40	-	4	10	14	-	9	-	8	-	5

*For other states, please refer to Appendix Table A-1.

†Rank orders were assigned only to totals qualifying for ranks 1 through 10.

TABLE 16

Means and Ranges of Age of COTEANS-Sponsored Examinees, by Sex
And by Pass/Fail, Part I of the NBME Examinations, 1972 Through 1976

Category	1972	1973	1974	1975	1976
All Examinees					
Mean Age Total	25.1	25.4	25.5	26.2	26.2
Range	(19 - 50)	(20 - 58)	(20 - 52)	(21 - 53)	(21 - 51)
Mean Age Men	25.1	25.4	25.4	26.1	26.1
Range	(19 - 50)	(20 - 58)	(20 - 52)	(21 - 53)	(21 - 51)
Mean Age Women	25.8	25.8	26.4	27.5	26.6
Range	(21 - 35)	(20 - 40)	(20 - 37)	(21 - 42)	(21 - 44)
Passing Examinees					
Mean Age Total	25.4	25.5	25.7	26.1	26.1
Range	(22 - 50)	(22 - 58)	(22 - 52)	(21 - 53)	(22 - 51)
Mean Age Men	25.4	25.5	25.6	25.9	26.0
Range	(22 - 50)	(22 - 58)	(22 - 52)	(21 - 53)	(22 - 51)
Mean Age Women	25.8	24.6	27.7	27.6	26.7
Range	(22 - 30)	(23 - 27)	(22 - 37)	(23 - 38)	(23 - 39)
Failing Examinees					
Mean Age Total	25.0	25.4	25.2	26.5	26.2
Range	(19 - 42)	(20 - 48)	(20 - 45)	(21 - 46)	(21 - 46)
Mean Age Men	25.0	25.3	25.2	26.4	26.2
Range	(19 - 42)	(20 - 48)	(20 - 45)	(21 - 46)	(21 - 46)
Mean Age Women	25.8	26.0	25.3	27.4	26.6
Range	(21 - 35)	(20 - 40)	(20 - 35)	(21 - 42)	(21 - 44)

* Ages based on April of each test year.

The low boundary ages of 19 and 20 seem unusual from the viewpoint of U.S. standards since they are closer to the entrance ages for undergraduate colleges than for medical schools. From the viewpoint of the educational system in European countries, however, these ages are customary, because students enter professional schools directly after completing high school. The first year in that case corresponds to premedical course work, and the actual basic science curriculum does not begin until the second year. Thus, the few American students who went directly from high school to medical school are considerably younger than their USFMS counterparts who attended U.S. undergraduate colleges before embarking on foreign studies. Most USFMS's, however, start medical school abroad after completing college in the U.S.

On the other end of the spectrum are the older students who are mostly represented by individuals in the process of changing careers. An earlier career choice in a different field may have "failed to yield the personal satisfaction derived from humanitarian endeavors."[10] In other cases, a medical career may have been delayed because of family circumstances or financial limitations.[11] Frequently these older students applied to U.S. medical schools first but were not accepted. For places in the 1974-75 first-year class, for example, 95 percent of all acceptances were offered to those aged 27 or younger, and 80 percent of those 3,860 individuals aged 28 or older were not accepted.[12] Some of these rejected older applicants (and others who never applied to U.S. medical schools because of the age factor) enrolled at foreign schools in order to pursue their quest for a medical career.

b. Ages by Pass/Fail, Part I, NBME:

(1) 1972 Through 1976: By the Part I, NBME Pass/Fail criteria, age appears to be more detrimental to women than to men (Table 17). The oldest men candidates usually

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[10] W. F. Dubé, The Fate of the Older Medical School Applicant, Association of American Medical Colleges DSS Report 76-2 (Washington, D.C., 1976), p. 3.
[11] Ibid.
[12] W. F. Dubé and D. G. Johnson, Study of U.S. Medical School Applicants, 1974-75 (see footnote p. 18), p. 881.

TABLE 17

Pass Rates of COTRANS-Sponsored Examinees, by Age
And by Sex, Part I of 1976 NBME Examinations

Age*	All Examinees				Passing Examinees					
		Number			Total		Men		Women	
	Percent	Total	Men	Women	No.	Percent Passing	No.	Percent Passing	No.	Percent Passing
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
Total	100.0	852	771	81	459	53.9	429	55.6	30	37.0
21 and under	0.5	4	3	1	--	--	--	--	--	--
22	2.1	18	14	4	5	27.8	5	35.7	--	--
23	7.3	62	57	5	34	54.8	32	56.1	2	40.0
24	19.4	165	149	16	98	59.4	91	61.1	7	43.8
25	22.9	195	178	17	106	54.4	97	54.5	9	52.9
26	16.1	137	130	7	78	56.9	78	60.0	--	--
27	10.4	89	81	8	45	50.6	44	54.3	1	12.5
28	6.8	58	51	7	33	56.9	28	54.9	5	71.4
29	4.0	34	31	3	15	44.1	14	45.2	1	33.3
30	2.5	21	16	5	9	42.9	8	50.0	1	20.0
31	2.6	22	19	3	14	63.6	12	63.2	2	66.7
32-37	4.3	37	36	1	18	48.6	17	47.2	1	100.0
38 and over	1.2	10	6	4	4	40.0	3	50.0	1	25.0

All Examinees: Range 21 - 51; mean 26.2
Men: Range 21 - 51; mean 26.1
Women: Range 21 - 44; mean 26.6

Passing Examinees: Range 22 - 51; mean 26.1
Men: Range 22 - 51; mean 26.0
Women: Range 23 - 39; mean 26.7

*As of April 1976.

succeeded in passing, while the upper age boundaries for women candidates were considerably lower for those who passed than for those tested. The only exception was the 1974 COTRANS group when the oldest woman candidate tested (age 37) also passed. On the whole, however, both men and women in their twenties have higher pass rates than those in their thirties or older.

(2) COTRANS-Sponsored Examinees, 1975 versus 1976: Of the 1976 COTRANS group, 79 percent were age 27 or younger, more than half (58 percent) were age 24, 25, and 26, while 21 percent were 28 or older (Table 17). In comparison with 1975 COTRANS candidates, the age distributions were almost parallel: 79 percent were 27 or younger, while 21 percent were 28 or older. A 3.8 percentage-point increase occurred in 1976 over the 54.5 percent aged 24, 25, and 26 in 1975. Of the 1976 passing population, 61.4 percent were aged 24, 25, and 26, a parallel increase of 3.8 percentage-points over 1975.

3. Self-Description

a. Comparison of 1975 versus 1976: Even though self-description information was limited to less than 50 percent of all COTRANS candidates in 1975 and 1976, the results were almost identical in both years (Table 18). There was only a slight change of direction that shifted the proportion of white respondents downward (by 4.3 percentage-points) and that of minority respondents upward (5 percentage-points). This small increase was shared by all of the minority groups listed except by black Americans who were completely absent in both years. The largest numeric minority increase was noted for Hispanic Americans.

b. Distribution by Foreign Country: Of the Caucasian students in 1976, 42 percent were in Mexico, while 53 percent studied medicine in Belgium, France, Italy, and the Philippines (derived from Table 19). The comparable proportions in 1975 were 46 and 45 percent. Hispanic students continued to attend medical schools in such Spanish-speaking countries as the Dominican Republic and Mexico, while American Orientals were represented in the Philippines, Europe, and Mexico. The four American Indians studied in Belgium and in Mexico. The 29 "Other" minority students were represented in all of the major

TABLE 18

Comparison of COTRANS-Sponsored Examinees
By Self-Description, 1975 versus 1976

Category	1975 COTRANS-Examinees			1976 COTRANS-Examinees		
	Number	Percent	Percent Responses N=279	Number	Percent	Percent Responses N=374
Total	430	100.0	100.0	516	100.0	100.0
Black/Afro-American	--	--	--	--	--	--
American Indian	2	.4	.7	4	.8	1.1
White/Caucasian	244	56.7	87.5	311	60.3	83.2
Hispanic American*	13	3.0	4.7	21	4.1	5.6
Oriental/Asian-American	3	.7	1.1	9	1.7	2.4
Other	17	4.0	6.1	29	5.6	7.8
No Response	151	35.1	--	142	27.5	--

*Includes Mexican Americans and Mainland Puerto Ricans.

Chi square for entire table = 2.40 (2df), p>.10. (In chi square calculation, American Indian and Hispanic American categories were combined, and "Other" was omitted.)

TABLE 19

Distribution of COTRANS-Sponsored Examinees
By Self-Description and by Country of Foreign Medical School
1976 Test Year

Country of Foreign Medical School	Total Per Country		White/ Caucasian		American Indian		Hispanic American*		Oriental/ Asian American		Other		No Response	
	No.	Percent	No.	Percent	No.	Percent	No.	Percent	No.	Percent	No.	Percent	No.	Percent
Total	516	100.0	311	60.3	4	0.8	21	4.1	9	1.7	29	5.6	142	27.5
Belgium	50	100.0	33	66.0	2	4.0	--	0.0	1	2.0	3	6.0	11	22.0
Dominican Republic	15	100.0	1	6.7	--	0.0	9	60.0	--	0.0	--	0.0	5	33.3
France	58	100.0	47	81.0	--	0.0	--	0.0	--	0.0	2	3.4	9	15.5
Italy	79	100.0	45	57.0	--	0.0	--	0.0	1	1.3	5	6.3	28	35.4
Mexico	228	100.0	131	57.5	2	0.9	9	3.9	1	0.4	12	5.3	73	32.0
Philippines	56	100.0	40	71.4	--	0.0	--	0.0	6	10.7	1	1.8	9	16.1
Spain	7	100.0	1	14.3	--	0.0	2	28.6	--	0.0	3	42.9	1	14.3
Switzerland	1	100.0	1	100.0	--	0.0	--	0.0	--	0.0	--	0.0	--	0.0
Other	22	100.0	12	54.5	--	0.0	1	4.5	--	0.0	3	13.6	6	27.3

*Includes Mexican Americans and Mainland Puerto Ricans.

(None of the respondents checked "Black/Afro-American".)

host countries except the Dominican Republic and Switzerland.

c. Part I, NBME Performance: Test performance by Pass/Fail criteria showed passing percentages in the fifties for all groups except for Hispanic students (see Appendix Table B-1). Only 3 of the 21 (14 percent) Hispanic students passed Part I, NBME in 1976, which approximates the 1975 test results. The pass rate of white students (57 percent) in 1976 was 9 percentage-points below that of the white COTRANS candidates in 1975.

4. Parental Income

a. Comparison of 1975 versus 1976: The parental income distributions for the 1976 COTRANS candidates showed only slight differences over 1975 (Table 20) and these may be explained by inflation. There was a three percentage-point increase in students from family backgrounds of the $20,000 or more income level. This gain was offset by a corresponding decrease of one percentage-point for incomes between $10,000 and $19,999 and of two percentage-points for the combined categories of incomes under $10,000.

The 1976 proportion of 18 percent for the combined income levels under $10,000 resembles the equivalent percentage of non-professional fathers' occupational backgrounds (see Table 21). It is very likely that COTRANS candidates from these limited financial circumstances would seek out foreign medical schools that are state-funded and charge no tuition.

b. Income Medians: An increase of $1,000 was noted for the parental income median of 1976 ($18,900) versus 1975 ($17,900). The difference between the income medians of 1976 COTRANS candidates and that of the corresponding 1974-75 U.S. medical school applicant pool ($16,000) amounted to $2,900 (see Appendix Table C-1). This difference is $200 smaller than that of the previous COTRANS year ($3,100) when the corresponding U.S. medical school applicant pool had an income median of $14,800. In comparison with 1974-75 acceptees ($17,300), the difference from the median parental income of 1976 COTRANS candidates was $1,600. Moreover, the reader should keep in mind that these medians reflect income levels of the year prior to completion of the MCAT questionnaire. Thus, 1971 and 1972 income levels apply to 1976 COTRANS

TABLE 20

Comparison of COTRANS-Sponsored Examinees
By Parental Income, 1975 versus 1976*

Category	1975 COTRANS Examinees			1976 COTRANS Examinees		
	Number	Percent	Percent Responses N=281	Number	Percent	Percent Responses N=402
Total	430	100.0	100.0	516	100.0	100.0
Less than $5,000	16	3.7	5.7	26	5.0	6.5
$5,000 - 9,999	40	9.3	14.2	47	9.1	11.7
$10,000 - 14,999	62	14.4	22.1	86	16.7	21.4
$15,000 - 19,999	40	9.3	14.2	54	10.5	13.4
$20,000 or more	123	28.6	43.8	189	36.6	47.0
No Response	149	34.7	--	114	22.1	--
Estimated Median	--	--	$17,900	--	--	$18,900

*Gross combined parental income for year prior to applicants' completion of the Medical College Admission Test (MCAT) Questionnaire (1970 and 1971 for 1975 COTRANS group, and 1971 and 1972 for 1976 COTRANS group).

Chi square for entire table = 1.49 (4df), p>.10.

candidates and 1970 and 1971 levels to the 1975 COTRANS group.

In testing the 1975 and 1976 COTRANS distributions of parental income levels for potential differences, the chi square showed only a small difference of 1.49 (4df) that was not statistically significant ($p>.10$). In assessing the 1976 COTRANS proportion of incomes above $20,000 versus 1974-75 U.S. medical school applicants at that level, a definite difference of 22.78 (1df) was found that was significant, $p<.01$.

c. Part I, NBME Performance: All parental income groups, except the one under $5,000, had pass rates above 50 percent (see Appendix Table B-2). The highest pass rate (72 percent) was attained by COTRANS candidates from family backgrounds of $15,000-19,999. The highest mean MCAT Science score and mean GPA was recorded for the $10,000-14,999 group with 50 percent passing. Parental income medians of passing COTRANS candidates were over $20,000 for 1976 and $19,000 for 1975.

5. Father's Occupation

a. Comparison of 1975 versus 1976: By Father's Occupation, the concentration of 1976 COTRANS candidates who responded to this item was in the "Physician," "Other Health Occupation," "Other Profession," and "Owner, Manager, Administrator (Non-Farm)" categories (Table 21). All of these professions combined accounted for 74 percent of the group, an increase of one percentage-point over 1975. The comparable proportion for the corresponding 1974-75 U.S. medical school applicant pool was 65 percent (see Appendix Table C-2).

Outstanding is the category of "Physician" fathers for 22 percent of the 1976 COTRANS candidates, which compares with 20 percent for the 1975 COTRANS group and 12 percent of physicians among the fathers of the 1974-75 and 1973-74 U.S. medical school applicant pools (Appendix Table C-2). In addition, COTRANS candidates comprised more "Other Health Occupation" and "Other Profession" fathers but eight percentage-points fewer "Owner, Manager, Administrator (Non-Farm)" fathers than all 1974-75 U.S. medical school applicants. All other occupational categories were under 10 percent. Intense motivational and environmental pressures are probably responsible for

TABLE 21

Comparison of COTRANS-Sponsored Examinees
By Father's Occupation, 1975 versus 1976

Category	1975 COTRANS Examinees			1976 COTRANS Examinees		
	Number	Percent	Percent Responses N=309	Number	Percent	Percent Responses N=451
Total	430	100.0	100.0	516	100.0	100.0
Physician	61	14.1	19.7	99	19.2	22.0
Other Health Occupation	39	9.0	12.6	45	8.7	10.0
Other Profession	76	17.6	24.6	109	21.1	24.2
Owner, Manager, Administrator (Non-Farm)	49	11.4	15.9	79	15.3	17.5
Clerical or Sales Worker	25	5.8	8.1	33	6.4	7.3
Craftsman, Skilled Worker	16	3.7	5.2	26	5.0	5.8
Unskilled Worker (Non-Farm)	3	0.7	1.0	11	2.1	2.4
Farmer or Farm Worker	16	3.7	5.1	9	1.7	2.0
Homemaker	0	0.0	0.0	1	0.2	0.2
Other	24	5.5	7.8	39	7.6	8.6
No Response	121	28.1	--	65	12.6	--

Chi square for entire table = 3.10 (7df), $p>.10$. (The ten categories shown were reduced to eight for the chi square calculation.)

the higher proportions of COTRANS candidates from "Physician" and "Other Profession" family backgrounds.

Chi-square analysis of the proportional representation of "Physician" fathers versus all other occupational categories in the 1975 versus 1976 COTRANS distributions yielded a non-significant difference of .54 (1df), $p>.10$, that could have been due to chance. When the same test was applied to "Physician" fathers of the 1976 COTRANS group versus the 1974-75 U.S. medical school applicants, however, the result amounted to a difference of 42.27 (1df) that was statistically significant at the .01 level.

b. Part I, NBME Performance: More than 50 percent of the 1976 COTRANS candidates with fathers in all but one of the occupational categories passed Part I, NBME (see Appendix Table B-3). Candidates with fathers from "Other Health Occupations" had the lowest pass rate (47 percent), while "Other Profession" candidates scored the highest (67 percent). Fifty-seven percent of the candidates with physician fathers passed, a decrease of seven percentage-points over 1975.

6. Career Plans

a. General Career Activity: Future career aims of the 1976 examinees date back to choices indicated on the MCAT questionnaire that was completed in 1972 and 1973 before applying to U.S. medical schools. At that time, nearly two-thirds (64 percent) of the 1976 COTRANS candidates envisioned "General Practice" or "Specialty Practice" activities (Table 22). Similarly, 66 percent of the 1975 COTRANS group chose these two categories. In 1976, a small increase (1.5 percentage-points) occurred over 1975 for "Research and/or Teaching," while a decrease (2.9 percentage-points) was noted for the "Combination of Specialty Practice, Research, and/or Teaching" category. The only sizable difference between 1976 COTRANS candidates and their counterparts in the 1974-75 U.S. medical school applicant pool was the "Specialty Practice" category, which was more popular with COTRANS (34 percent) than with 1974-75 applicants (28 percent) (see Appendix Table C-3).

By Pass/Fail Part I, NBME criteria, 1976 COTRANS candidates of all career plan categories achieved pass

TABLE 22

Comparison of COTRANS-Sponsored Examinees
By General Career Activity Plans, 1975 versus 1976

Category	1975 COTRANS Examinees			1976 COTRANS Examinees		
	Number	Percent	Percent Responses N=336	Number	Percent	Percent Responses N=486
Total	430	100.0	100.0	516	100.0	100.0
General Practice	107	24.8	31.8	147	28.5	30.2
Specialty Practice	115	26.7	34.2	166	32.2	34.2
Research and/or Teaching	6	1.4	1.8	16	3.1	3.3
Combination of Specialty Practice, Research, and/or Teaching	68	15.8	20.2	84	16.3	17.3
Other	6	1.4	1.8	11	2.1	2.3
Undecided	34	7.9	10.0	62	12.0	12.8
No Response	94	21.8	--	30	5.8	--

Chi square for entire table = 2.83 (4df), $p>.10$. ("Undecided" category was omitted for chi square calculation.)

rates of 50 percent or above (see Appendix Table B-4). Sixty percent of the "Specialty Practice" selectors passed, but the highest rate (75 percent) was achieved by the small group who initially opted for "Research and/or Teaching." This group also had the highest mean MCAT Science score (620).

b. Specialty Choices: Of the eleven specialty categories listed, 1976 COTRANS candidates differed from the 1975 group by more than one percentage-point in only two areas: "Family Practice" and "Public Health, Community Medicine" (Table 23). The former was selected by 17 percent and the latter by 5 percent of the 1976 candidates and represented an increase of 4 percentage-points for "Family Practice" and a decrease of 3 percentage-points for "Public Health, Community Medicine."

In comparison with 1974-75 U.S. medical school applicants, the largest differences were noted for "Family Practice" (25 percent versus 17 percent for COTRANS) and for "Surgery and Surgical Specialty" (13 percent versus 17 percent for COTRANS). In agreement were the choices of both groups in "Public Health, Community Medicine" (5 percent), of "Other Known Specialty" (5 percent), and of the "Undecided" category, which accounted for 14 percent of all respondents of the 1974-75 U. S. medical school applicant pools and of the 1976 COTRANS candidates. The differences in all other specialty areas were under 3 percentage-points (see Appendix Table C-4).

For the total 1975 and 1976 COTRANS distributions, the differences in specialty choices were not significant (chi-square=9.7 (10df), $p>.10$). Comparison of the "Family Practice" proportion with all other specialties of 1976 COTRANS candidates versus 1974-75 U.S. medical school applicants, however, yielded a significant difference (chi-square=5.67 (1df), $p<.02$).

From the viewpoint of Part I, NBME test performance (see Appendix Table B-5), the highest pass rates were attained by selectors of "Family Practice" (60 percent), "Internal Medicine" (65 percent), "Plan to Specialize - Area Unknown" (63 percent), and "Undecided" (69 percent). Under 50 percent were those who chose "Obstetrics/Gynecology" (46 percent), "Public Health, Community Medicine" (44 percent), or "Do Not Plan to Specialize" (28 percent). All other passing percentages were in the fifties. Most of the 1976 pass rates differed

TABLE 23

Comparison of COTRANS-Sponsored Examinees
By Specialization Plans, 1975 versus 1976

Category	1975 COTRANS Examinees			1976 COTRANS Examinees		
	Number	Percent	Percent Responses N=334	Number	Percent	Percent Responses N=486
Total	430	100.0	100.0	516	100.0	100.0
Basic Medical Science	6	1.4	1.8	15	2.9	3.1
Family Practice	42	9.7	12.6	80	15.5	16.5
Internal Medicine	27	6.7	8.7	40	7.8	8.2
Obstetrics/ Gynecology	18	4.1	5.4	28	5.4	5.8
Pediatrics	36	8.3	10.8	51	9.9	10.5
Psychiatry	20	4.6	6.0	28	5.4	5.8
Public Health, Community Medicine	26	6.0	7.8	23	4.5	4.7
Surgery or Surgical Specialty	52	12.0	15.6	82	15.9	16.9
Other Known Specialty	16	3.7	4.8	23	4.5	4.7
Plan to Specialize --Area Unknown	28	6.5	8.4	30	5.8	6.2
Do Not Plan to Specialize	19	4.4	5.7	18	3.5	3.7
Undecided	42	9.7	12.6	68	13.2	14.0
No Response	96	22.3	--	30	5.8	--

Chi square for entire table = 9.7 (10df), $p > .10$. ("Undecided" category was omitted for chi square calculation.)

negatively from 1975, except for "Internal Medicine" (65 percent) which paralleled the 66 percent of 1975, for "Family Practice" (60 percent), and for "Undecided" (69 percent), representing gains over the previous year of 10 and nine percentage-points respectively. Smaller gains in the 1976 passing percentages were recorded for "Pediatrics" and "Surgery or Surgical Specialty."

c. Character of Medical Practice: Preferences of 1976 COTRANS candidates for types of medical practice reflected changes in all four of the major categories listed (Table 24). Decreases from 1975 were noted for "Individual" (23 versus 28 percent) and "Hospital-Based Group" (19 versus 20 percent) practices. Gains, on the other hand, occurred for "Partnership" (17 versus 15 percent) and "Private Group" (11 versus 7 percent) practices. The "Public Health" category decreased by two percentage-points, while "Undecided" selectors accounted for about 18 percent of both the 1976 and 1975 COTRANS groups. These changes tended to diminish the differences in choices between COTRANS candidates and U.S. medical school applicants, noted in the Phase I COTRANS report.

The Part I, NBME pass rates for this variable were somewhat lower in 1976 (see Appendix Table B-6) than in 1975 for all but two practice types. Both the "Partnership" and "Private Group" selectors passed at the 60 percent level. (The upward change noted for the "Other" category is of questionable significance due to the small size of the group.)

TABLE 24

Comparison of COTRANS-Sponsored Examinees
By Expected Character of Medical Practice, 1975 versus 1976

Category	1975 COTRANS Examinees			1976 COTRANS Examinees		
	Number	Percent	Percent Responses N=336	Number	Percent	Percent Responses N=485
Total	430	100.0	100.0	516	100.0	100.0
Individual	93	21.6	27.7	113	21.9	23.3
Partnership	49	11.4	14.6	84	16.3	17.3
Private Group	23	5.3	6.8	55	10.7	11.3
Hospital-Based Group	68	15.8	20.2	91	17.6	18.8
Full-Time Teaching and/or Research	6	1.4	1.8	12	2.3	2.5
Public Health	29	6.7	8.6	32	6.2	6.6
Industrial	0	0.0	0.0	0	0.0	0.0
Medical Administration	1	0.2	0.3	0	0.0	0.0
Other	6	1.4	1.8	8	1.6	1.6
Undecided	61	14.1	18.2	90	17.4	18.6
No Response	94	21.8	--	31	6.0	--

Chi square for entire table = 8.61 (6df), p>.10. (The 10 categories shown were reduced to seven for chi square calculation.)

D. Other-than-AAMC Data

1. ECFMG Background

The Educational Commission for Foreign Medical Graduates (ECFMG) was established in 1956 mainly to test and evaluate foreign-educated physicians who wished to participate in graduate medical education in U.S. hospitals. Toward this goal, the ECFMG verifies credentials, evaluates educational qualifications, and conducts examinations.[13]

Tests are administered in January and July of each year in more than 180 centers throughout the world. In order to pass, examinees must submit their credentials as prescribed by ECFMG and must obtain a scaled score of 75 or more. Test results are published annually, with separate entries for U.S. citizens by foreign medical school and by country.

a. Test Performance, U.S. versus Non-U.S.: For the five years under review, the largest groups of U.S. citizens who sat for the ECFMG examination had studied medicine in Mexico, Spain, and Italy. In comparison with entire groups of examinees, U.S. and non-U.S., the test results of Americans generally differed negatively from the total group in 1976: for example, Mexico - Americans 34 percent (entire group 35 percent); Spain - Americans 17 percent (entire group 24 percent); and Italy - Americans 43 percent (entire group 42 percent).[14] It should be remembered that these pass rates were produced by self-selected examinees and not by sample groups from a particular country.

b. ECFMG Test Performance by Foreign Country: Because pass rates of ECFMG candidates from selected countries

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[13] Council on Medical Education of the American Medical Association, Medical Licensure Statistics for 1973 (Chicago: American Medical Association, 1974), p. 24.

[14] Educational Commission for Foreign Medical Graduates, Results of 1976 ECFMG Examinations, Tabulated by Candidates, Countries and Medical Schools (Philadelphia: Educational Commission for Foreign Medical Graduates, 1976).

should be regarded only as background information, a juxtaposition of Part I, NBME pass rates of COTRANS candidates was omitted from Table 25. Even though the ECFMG group and the COTRANS candidates consist of U.S. citizens who studied medicine in the same host countries, the individual medical schools attended were not the same in all cases, and the number of years completed were quite different. Increased pass rates noted in 1975 and 1976 for certain countries of the COTRANS group, for example, would not appear until two or three years later for ECFMG candidates who complete all or most of their medical education abroad. Therefore, specific year by year comparisons of these two groups should be avoided. Moreover, the contents of the tests taken by these candidates covered different areas. The Part I, NBME test taken by COTRANS candidates concentrates on the basic medical sciences and does not extend to clinical information. For the ECFMG examination, on the other hand,

> "Most of the questions are chosen from the clinical fields of internal medicine (including mental diseases and preventive medicine), surgery, obstetrics and gynecology, and pediatrics. One sixth of the questions are chosen from the basic medical sciences of anatomy, biochemistry, microbiology, pathology, pharmacology, and physiology."[15]

2. Fifth Pathway Clerkship

The "Fifth Pathway" program was created by the Council on Medical Education of the American Medical Association as a re-entry program for U.S. students who studied abroad, were not eligible for ECFMG certification, but who had fulfilled the following conditions by July 1, 1971:

"a. Have completed, in an accredited American college or university, undergraduate premedical work of the

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[15] Educational Commission for Foreign Medical Graduates, Information Booklet (Philadelphia: Educational Commission for Foreign Medical Graduates, 1976), p. 21.

TABLE 25

Passing Percentages of ECFMG Examinations of U.S. Citizen Foreign Medical Graduates From Medical Schools in Selected Foreign Countries, 1972 Through 1976

Country of Location of Foreign Medical School	1972	1973	1974	1975	1976
Total					
No. Tested	1,298	1,401	1,709	2,157	2,159
No. Passed	472	375	610	743	871
Percent Passed	36.4	26.8	35.7	34.4	40.3
Belgium					
No. Tested	61	70	83	91	80
No. Passed	37	34	61	72	69
Percent Passed	60.7	48.6	73.5	79.1	86.3
Dominican Republic					
No. Tested	10	13	12	19	65
No. Passed	2	4	3	8	20
Percent Passed	20.0	30.8	25.0	42.1	30.8
France					
No. Tested	53	36	25	25	22
No. Passed	26	17	13	17	13
Percent Passed	49.1	47.2	52.0	68.0	59.1
Italy					
No. Tested	317	255	266	264	274
No. Passed	119	79	115	104	118
Percent Passed	37.5	31.0	43.2	39.4	43.1
Mexico					
No. Tested	439	575	765	1,086	1,114
No. Passed	162	126	248	363	482
Percent Passed	36.9	21.9	32.4	33.4	43.3
Philippines					
No. Tested	29	29	38	45	46
No. Passed	12	8	19	17	23
Percent Passed	41.4	27.6	50.0	37.8	50.0
Spain					
No. Tested	195	238	344	440	409
No. Passed	33	37	66	79	71
Percent Passed	16.9	15.5	19.2	18.0	17.4
Switzerland					
No. Tested	20	20	22	19	8
No. Passed	13	13	16	13	6
Percent Passed	65.0	65.0	72.7	68.4	75.0
Other					
No. Tested	174	165	154	168	141
No. Passed	68	57	69	70	69
Percent Passed	39.1	34.5	44.8	41.7	48.9

Source: 1972 and 1973 Annual Report, ECFMG

Source: 1974 through 1976 - Results of ECFMG Examinations: Tabulated by Candidates, Countries and Medical Schools.

quality acceptable for matriculation in an accredited U.S. medical school;

"b. Have studied medicine at a medical school located outside the United States, Puerto Rico, or Canada, but which is recognized by the World Health Organization;

"c. Have completed all of the formal requirements of the foreign medical school except internship and/or social service. Students who have completed the academic curriculum in residence in a foreign medical school and who have fulfilled the above conditions may be offered an opportunity to substitute for an internship required by a foreign medical school, an academic year of supervised clinical training (such as a clinical clerkship or junior internship) prior to entrance into the first year of AMA-approved graduate medical education.[16] The supervised clinical training must be under the direction of a medical school approved by the Liaison Committee on Medical Education.

"Before beginning the supervised clinical training, said students must have their academic records reviewed and approved by the medical school supervising their clinical training and must attain a score satisfactory to the sponsoring medical school on a screening examination acceptable to the Council on Medical Education, such as Part I of the National Board Examinations, or the ECFMG Examination, or the FLEX Examination, or the American Medical Screening Examination. The Council on Medical Education will consider the acceptability of any other screening examination proposed by a sponsoring medical school.

"Said students who are judged by the sponsoring medical schools to have completed successfully the supervised clinical training are eligible to enter the first year of AMA-approved graduate training programs

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[16] Since early 1975, graduate medical education programs have been accredited by the Liaison Committee on Graduate Medical Education (LCGME). (Journal of the American Medical Association, December 27, 1976 - Volume 236, No. 26, p. 2950.)

without completing social service obligations required by the foreign country of obtaining ECFMG certification.

"The Council on Medical Education has recommended to the state boards of medical examiners that they consider for licensure all candidates who have completed successfully the supervised clinical training on the same basis as they now consider foreign medical graduates who have received ECFMG certification."[17]

In 1974-75, 12 (10.5 percent) of 114 U.S. medical schools made these supervised clinical clerkships available to U.S. students from foreign medical schools.[18] By September 1, 1974, according to the AMA, 195 candidates who had completed the "Fifth Pathway" program had begun residency programs in 81 hospitals in 21 states.[19] No national data are available as to how many applied and were not accepted to the "Fifth Pathway" clerkships or how many participated and did not succeed. By 1975-76, 21 U.S. medical schools reported the sponsorship of "Fifth Pathway" programs with 340 students.[20] Of these, 259 (76 percent) registered in New York and New Jersey "Fifth Pathway" programs,[21] and 297 participated in the National Intern and Resident Matching Program.[22] For 1976-77, an estimated total of 387 "Fifth Pathway" students were expected.[23]

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[17] American Medical Association, Medical Education in the United States, 1972-73, Journal of the American Medical Association 226(1973):954.
[18] American Medical Association, Medical Education in the United States, 1974-75, Journal of the American Medical Association 234(1975):1343.
[19] Ibid., p. 1367.
[20] American Medical Association, Medical Education in the United States, 1975-76 (see footnote p. 2), p. 2960.
[21] Barry Stimmel and Harry Smith, 'Fifth Pathway' in New York State Medical Schools, Journal of Medical Education 52(1977):487.
[22] J. S. Graettinger, Graduate Medical Education Viewed from the National Intern and Resident Matching Program Journal of Medical Education 51(1976):704.
[23] American Medical Association, Medical Education in the United States, 1975-76 (see footnote p. 2), p. 2960.

In 1975, the Executive Council of the AAMC approved a statement by the Coordinating Council on Medical Education (CCME) on "The Role of the Foreign Medical Graduate" which contained Recommendations on U.S. Nationals Studying Medicine Abroad.[24] At the same time, the Executive Council approved an AAMC policy statement expressing preference for USFMS transfers to regular degree-granting programs rather than "Fifth Pathway" programs, stating:

> "that where resources were available, qualified U.S. citizens who had studied medicine abroad should be admitted into the regular educational program leading to the M.D. degree. The admission, placement, and certification for graduation of these students should be subject to the academic policies of the faculty of the institution. It was recommended that this program supersede existing Fifth Pathway programs."[25]

The following year, in June 1976, the CCME Report on "Physician Manpower and Distribution: The Role of the Foreign Medical Graduate" was published with revised recommendations:

1. "That continuing efforts be made to establish and maintain the United States as self-sufficient in meeting its future health manpower needs;

2. "That current selection procedures assuring every American interested in and qualified for entry to the study of medicine an equal opportunity to compete for admission to an accredited U.S. medical school be continued; unsucessful candidates should be encouraged through counseling to consider entering an alternative career rather than to enroll in a medical school abroad where the quality of medical education may fail to meet U.S. standards and may be inappropriate to U.S. health care needs; those who counsel students

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[24] Association of American Medical Colleges, Proceedings and Annual Report for 1975, Journal of Medical Education 51(1976):247-248.

[25] Ibid., pp. 247-248.

in high schools and colleges should be better informed about medical education and practice in giving guidance to students who indicate an interest in medicine.

3. "That U.S. medical schools continue and expand their use of the Coordinated Transfer Application System (COTRANS) established by the Association of American Medical Colleges in 1970 to facilitate and accelerate the reintroduction into the mainstream of American medical education larger numbers of qualified U.S. nationals enrolled in foreign medical schools;

4. "That, pending the achievement of the objective set forth in recommendation 1 above, funds should be sought from a variety of sources to assist U.S. medical schools in underwriting the special costs of educational programs for U.S. nationals who are studying in or have graduated from foreign medical schools; and

5. "That eligibility requirements for U.S. nationals who have obtained their medical degrees in a medical school not accredited by the Liaison Committee on Medical Education and who seek to enter graduate medical education or to qualify for medical licensure in the U.S. be identical with those required of other graduates of unaccredited medical schools."[26]

The emphasis in these CCME recommendations is clearly on expanding the COTRANS program, which assists with transfers from foreign to U.S. medical schools and the ultimate attainment of an M.D. degree from medical schools that are accredited by the Liaison Committee on Medical Education (LCME). Although the "Fifth Pathway" program is not referred to specifically by name, points 4 and 5 address the problem of those U.S. students from foreign

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[26] Coordinating Council on Medical Education, Physician Manpower and Distribution: The Role of the Foreign Medical Graduate (see footnote p. 1), p. 12-13.

medical schools who are neither eligible for ECFMG certification nor for an official M.D. degree.

3. FLEX Background

The Federation Licensing Examination (FLEX) was established in 1967 and first administered in 1968.[27] This test was created to provide a uniform test for use by state medical boards for individuals (U.S.-born or foreign-born) who are not eligible to take the certifying examinations of the National Board of Medical Examiners (NBME). By 1972, forty-two states had adopted FLEX as their qualifying examination[28] for licensure and by 1976 all states except Florida used FLEX.[29]

The feasibility of comparing the test performance of U.S.-born FLEX candidates who studied medicine abroad with the test results of COTRANS-sponsored examinees on Part I, NBME was explored. Although "the FLEX Examination has become the predominant route for licensure of foreign medical graduates,"[30] its test data cannot be utilized for comparison purposes for three reasons:

1. National aggregate data on U.S.-born foreign medical school graduates are not available because of the variation in either requiring or recording of citizenship information by individual state medical boards. Moreover, some

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[27] National Board of Medical Examiners, Evaluation in the Continuum of Medical Education, The Report of the Committee on Goals and Priorities of the National Board of Medical Examiners, (Philadelphia: National Board of Medical Examiners, 1973), p. 32.

[28] Ibid.

[29] Irene Butter, Foreign Medical Graduates: A Comparative Study of State Licensure Policies, Research Digest Series, USDHEW Publication No. HRA 77-3166 (Washington, D.C., 1976), p. 40.

[30] National Board of Medical Examiners, Evaluation in the Continuum of Medical Education (see footnote above), p.34.

states "currently have no requirement relative to citizenship, visa, or intention to become a citizen."[31] As a result, test data for U.S.-born FLEX participants can neither be separated from other examinees nor established on a national basis at present.

2. The standardization of state licensing examinations through FLEX was not accompanied by standardized test scoring policies to attain the minimum FLEX weighted average of 75 percent.[32] For example, in Dr. Butter's Ranking of States According to Difficulty of Requirements for Full Licensure of FMG's,[33] the states rated as "Least Difficult" permit FLEX candidates "to combine the best subject and day scores achieved in different trials of the examination. Some of these states allow an unsuccessful candidate to re-take only those parts of FLEX which pulled his or her average below 75 percent, thus reducing the burden of taking a 3-day examination all at once."[34]

3. COTRANS-sponsored examinees may sit for the 2-day Part I, NBME examination in many different U.S. and foreign test centers, but the scoring of all tests is accomplished uniformly by the NBME in Philadelphia. This scoring method is not compatible with variations in scoring utilized for FLEX. Furthermore, these data are inconclusive since the passing of FLEX (or ECFMG) is not a prerequisite for licensing to practice medicine in all states. In 1973, for example, "24 states awarded 226 licenses to foreign medical school graduates on the basis of foreign credentials."[35] A detailed discussion of the rather complex policies involved in granting

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[31] Federation of State Medical Boards, 1977: personal communication.
[32] Butter (see footnote p. 65).
[33] Ibid, pp. 14-15.
[34] Ibid, p. 40.
[35] Council on Medical Education of the American Medical Association, Medical Licensure Statistics for 1973 (see footnote p. 58), p.4.

licenses by examination or by endorsement in various states is beyond the scope of this study, but the reader should be aware of the lack of uniformity prevailing for the years under review.[36]

According to AMA data, the number of "Initial U.S. Licenses Issued to American Graduates of Foreign Medical Schools" per year (on the basis of FLEX or other criteria) amounted to fewer than 300 from 1970 through 1976. During this time period, initial licenses increased from 198 in 1970 and 210 in 1971 to 240 in 1972, peaking at 299 in 1973. Since 1973, the yearly total has remained below the 1973 peak at 286 in 1974, 221 in 1975, and 283 in 1976.[37]

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[36] For a comprehensive review of licensure policies, the interested reader is referred to Dr. Irene Butter's study (see footnote p. 65) for the Public Health Service, DHEW.

[37] American Medical Association, Medical Education in the United States, 1976-77, Journal of the American Medical Association, (in press).

IV. SUMMARY AND CONCLUSIONS

This Phase II Report was concerned primarily with U.S. Citizen Foreign Medical Students seeking transfers from foreign to U.S. medical schools via COTRANS. Information about other re-entry programs presented here includes some test data but consists mostly of background descriptions. The overall focus was on the five-year time period, 1972 through 1976.

Purpose

While the Phase I report concentrated on describing and analyzing COTRANS participants of 1975 exclusively, this Phase II report explored changes in selected major characteristics of COTRANS participants over time in four major areas.

a. Historical and current information on COTRANS participation activity, Part I, NBME pass rates, and advanced standing admissions of COTRANS-sponsored examinees at U.S. medical schools, 1970 through 1976.

b. Academic ability information based on Part I, NBME test performance (by basic science subject, first-time and repeat examinee status, and sex) plus undergraduate academic data (MCAT Science scores and GPA's) for 1972 through 1976.

c. Demographic characteristics such as age, state of residence, racial/ethnic self-description, socio-economic family background, and medical career plans, 1975 versus 1976.

d. Re-entry programs (ECFMG, Fifth Pathway, and FLEX) that are not administered by AAMC but were available to USFMS's and USFMG's, 1972 through 1976.

Methodology

COTRANS data presented in this Phase II Report were derived mainly from the computerized COTRANS tape file comprising (a) information supplied by COTRANS

participants and (b) Part I, NBME test scores furnished by the National Board of Medical Examiners. For those COTRANS participants who had previously applied to U.S. medical schools, additional information was drawn from the Applicant file of the Medical Student Information System (MSIS). Advanced standing admission counts were based on annual AAMC Fall Enrollment Surveys.

For Other-than-AAMC data, annual ECFMG reports of examination results, annual U.S. Medical Education issues of the American Medical Association (Fifth Pathway and Initial Licenses), and special reports on FMG's and licensing were utilized.

Major Findings

COTRANS-Sponsored Examinees

Yearly participant totals ranged from 285 in 1970 to 807 in 1972 and to 1,044 in 1976, while annual examinee totals fluctuated from 270 in 1970 to 676 in 1972 and 852 in 1976. Only 1973 approached a total of 1,000 examinees, when 957 of the 1,046 individuals sponsored took Part I, NBME. The trend of Part I, NBME pass rates was generally upward--from 29 percent in 1970 to 32 percent in 1972 and 54 percent in 1976. A peak of 57 percent occurred in 1975.

Advanced standing admissions to U.S. medical schools of COTRANS-sponsored examinees increased from 82 in 1970 to 214 in 1972 and 373 in 1976. In addition, some USFMS admissions who were sponsored for Part I, NBME by U.S. medical schools (rather than by COTRANS) were admitted in 1975 (28) and in 1976 (85). These non-COTRANS admissions came from a pool of USFMS examinees that exceeded the size of the COTRANS group tested in 1976.

Applicants to U.S. Medical Schools

Historical data for U.S. medical school applicants were provided to show the continuing disparity between supply of and demand for first-year places. During the time interval (1968 through 1974) that corresponds to the

COTRANS years under review (1970 through 1976), acceptances rose by 49 percent while rejections increased by 150 percent. About two-thirds of the COTRANS participants had applied to U.S. medical schools before going abroad.

Part I, NBME Participation

The proportions of repeating COTRANS-sponsored examinees fluctuated from a low of 12 percent in 1972 to a high of 40 percent in 1975 and settled back to 23 percent in 1976. Pass rates of repeaters were consistently above 50 percent and even reached 74 percent in 1976. Pass rates for first-time examinees tended to remain under 50 percent. Yearly groups of women examinees increased gradually but were still at the 10 percent level in 1976.

The proportions of COTRANS-sponsored examinees per major host country revealed some new directions. In 1973 and 1974 the majority (75 percent) studied medicine in Mexico. By 1976, the American group in Mexico declined to 40 percent, while more than half listed schools in Belgium, France, Italy, the Philippines, and other countries. The total number of foreign schools and countries involved accelerated from 41 schools in 15 countries in 1972 to 88 schools in 25 countries in 1976. The overall upward trend for passing percentages by major host country accelerated toward the end of the five-year period for all countries except Belgium, the Dominican Republic and Spain.

Part I, NBME Performance

Since 1972, the mean scores of COTRANS candidates of the total Part I, NBME test moved gradually upward through 1975 and declined slightly in 1976. The mean of passing 1976 COTRANS candidates (483) was 19 points higher than the mean of 464 in 1972, but peaked in 1975 when the passing mean of 489 was eleven points below the mean of 500 of the Candidate Reference Group from U.S. medical schools.

By basic science subject area, the highest passing mean scores were consistently achieved in Biochemistry, while the lowest mean scores occurred in Behavioral Science. Mean scores by sex in all years tended to be

higher for the men than for the women COTRANS candidates. Apart from 1972 when few women participated, women examinees attained higher scores than men in Behavioral Science in 1974 and 1975 but not in 1976. The greatest differences in passing mean scores by sex were noted for Physiology and Anatomy.

Yearly distributions of passing scores by host country showed larger clusters below the mean of 500 than above. For all groups, proportions of scores above 500, however, advanced from 28 percent in 1972 to 38 percent in 1976. Increasing frequencies above the mean of 500 were evident for France, Italy, Mexico, and the Philippines. Some of the groups of repeating examinees who passed had slightly higher scores than first-time examinees, but all of the passing 1976 repeaters gained an average of only 4 points. (In 1975, the mean score of test repeaters was four points below that of first-time test takers.)

Correlations between MCAT Science scores and Part I, NBME total test scores for the five COTRANS groups 1972 through 1976 produced coefficients that moved from .37 for 1972 to .44 for 1975 and 1976. By major host country, the lowest pair of mean scores was recorded for the Dominican Republic in both 1975 and 1976. The highest mean Part I, NBME scores were noted for Switzerland in 1975 and for Italy in 1976. The highest mean MCAT scores were recorded for Belgium in 1975 and Belgium and France in 1976.

Undergraduate Academic Background

An overall upward trend was evident for mean MCAT Science scores and for grade point averages of all COTRANS candidates from 1972 through 1976. MCAT Science means of passing COTRANS candidates increased by 30 points from 543 (1972) to 573 (1976), while total group means moved from 513 (1972) to 550 (1976). Grade point averages for passing candidates changed by .17 from 2.78 (1974) to 2.95 (1976). In comparison with acceptees from corresponding groups of U.S. medical school applicants, the yearly MCAT Science mean of all COTRANS candidates differed negatively by more than one-half of a standard deviation. Grade point averages of COTRANS students were substantially below GPA's of U.S. medical school applicants of the years GPA information was available.

Demographic and Career Choice Characteristics

Three states--New York (1,347), New Jersey (579), and California (506) with a combined total of 2,432 were the largest contributors (62 percent) of COTRANS-sponsored examinees during the five years analyzed. In addition, Texas, Pennsylvania, Florida, Illinois, and Ohio each supplied more than 100 but fewer than 200 over this five-year time interval.

Ages of COTRANS-sponsored examinees generally ranged from the early twenties through the early fifties in the five years analyzed. (An exception occurred in 1973 when the oldest candidate was 58.) Mean ages of men changed from 25.1 to 26.1, while those of women moved from 25.8 (1972) to 27.5 (1975). Age distributions of 1975 and 1976 COTRANS candidates were nearly parallel, with 79 percent aged 27 or younger and 21 percent aged 28 or older. Of those who passed in 1976, 62 percent were aged 24, 25, and 26, an increase of four percentage-points over the comparable age group that passed in 1975.

Racial/ethnic self-description responses of COTRANS candidates of 1975 versus 1976 reflected a slight shift toward more minority students, from 12 percent to 17 percent, which was shared by all groups except black Americans who were absent in both years.

Comparisons of parental incomes of COTRANS candidates of 1975 versus 1976 disclosed a three percentage-point increase in 1976 at the $20,000 or more level. The 1976 parental income median was $18,900, a gain of $1,000 over the previous COTRANS year. The comparable medians of the corresponding 1974-75 U.S. medical school applicant pool were $16,000 for the total and $17,300 for acceptees. (These medians reflect 1971 and 1972 income levels.)

By "Father's Occupation," the 74 percent of the 1976 COTRANS candidates that came from "Physician," "Other Health Occupation," "Other Profession" or "Owner, Manager, Administrator (Non-Farm)" backgrounds closely resembled the 73 percent noted for 1975. "Physician" fathers, however, increased from 20 percent in 1975 to 22 percent in 1976, which compares to 12 percent in the corresponding U.S. medical school applicant pools.

Career Plans

By General Career Activity, 1976 COTRANS preferences for "General Practice" (30 percent) and "Specialty Practice" (34 percent) dominated the choices almost as much as in 1975. Among the eleven Specialty categories, 1976 COTRANS candidates differed from 1975 mainly in "Family Practice" and "Public Health, Community Medicine" by raising the former by four percentage-points and lowering the latter by three percentage-points. Of the Character of Medical Practice options, 1976 COTRANS preferences resulted in some downward changes in the proportions of "Individual" (23 percent), "Hospital-Based Group" (19 percent) and "Public Health" (7 percent) practices and small gains for "Partnership" (18 percent) and "Private Group" (11 percent) practices over 1975.

Other-than-AAMC Data

The three "Other-than-AAMC" re-entry programs available to U.S. graduates and U.S. students from foreign medical schools were also considered but only limited data were available. For the oldest program, the ECFMG examination, data were selected for those foreign countries that were also host countries for COTRANS candidates. Direct comparisons of year-by-year test performances, however, were avoided because the lengths of medical study as well as the contents of the tests taken by these two groups were vastly different.

National data for USFMS's who participated in the "Fifth Pathway" clerkship program were limited to totals entering residencies in U.S. hospitals in some years and to estimates in other years. Due to these limitations, the coverage mainly comprised a background description based on reports in the medical education literature.

An exploration of the third re-entry program, FLEX, established that separate test data for U.S. citizens were not available on a national basis. Furthermore the scoring procedures are not standardized, and the awarding of licenses to practice medicine are not based on the same criteria in each state. Therefore, the data included in this section were limited to initial U.S. licenses awarded to American graduates from foreign medical schools.

Conclusions

The overall impression of the findings of this Phase II Report that covers the years from the beginning of the COTRANS program in 1970 through 1976 can be characterized by a gradual upward trend that gained momentum in 1975 and leveled off in 1976. In the order of the four major areas outlined in the "Purpose" Section, the following conclusions can be drawn:

a. Although COTRANS participant totals fluctuated in the past, they exceeded 1,000 per year in three of the last five years reviewed. Totals of passing COTRANS-sponsored examinees climbed steadily in successive years but especially in 1976 when 459 passed Part I, NBME. Totals of advanced standing admissions of COTRANS-sponsored examinees at U.S. medical schools progressed upward unevenly since 1972 but were consistently below the totals of passing examinees. The size of the USFMS examinee group sponsored by individual medical schools exceeded the COTRANS total in 1976.

Nearly two-thirds of the 1975 and 1976 COTRANS candidates had previously applied unsuccessfully to the first-year classes of U.S. medical schools. Yet they represent only a small portion of the more than 26,000 individuals who were rejected in each of the comparable U.S. medical school applicant years.

b. Of the yearly COTRANS-sponsored examinee populations, less than one-fourth were test repeaters (except in 1975) and less than 10 percent were women prior to 1976. Among major host countries, the 75 percent who had studied in Mexico in the early seventies declined to 40 percent by 1976. In recent years (1975 and 1976) more than half of the COTRANS candidates attended medical schools mainly in Europe and the Philippines.

Passing COTRANS candidates attained mean total test scores on Part I, NBME ranging from 464 to 483 during the five-year period 1972 through 1976. The peak occurred in 1975 when their mean of 489 was eleven points below the mean of 500 of the U.S. medical school candidate reference group. By subject area, the highest mean scores were achieved in Biochemistry. Distributions of passing total Part I, NBME scores showed steadily increasing frequencies above the mean, from 28 percent (1972) to 38 percent (1976). Correlations between Part I, NBME and MCAT

Science scores produced r values of .44 (s = .001) for both 1975 and 1976, as compared with .37 in 1972.

Undergraduate academic ability levels of COTRANS candidates reflected gains of 30 points over 1972 in the mean MCAT Science score (573) of passing 1976 COTRANS candidates, while GPA's remained below 3.00. Compared with U.S. medical school applicants, the 1976 COTRANS Science mean paralleled that of 1972-73 acceptees. The main difference between COTRANS candidates and accepted U.S. medical school applicants was the cumulative grade point average, which reached 2.95 for COTRANS and 3.45 for corresponding U.S. medical school acceptees by 1976.

c. Demographic characteristics of 1976 COTRANS-sponsored examinees closely resembled the findings of 1975. Geographically, the largest numbers (nearly 2,500 in five years) came from New York, New Jersey, and California. Ages ranged from 19 to 58, while mean ages changed from 25.1 to 26.2 since 1972. About 21 percent of the COTRANS candidates were aged 28 or older The representation of racial/ethnic minority students increased from 12 to 17 percent between 1975 and 1976, but black Americans were not included. By parental income, 53 percent of the 1976 COTRANS group checked income levels below $20,000 (including 18 percent under $10,000), and 47 percent were above $20,000. Although these data derive from 1971 and 1972 parental income levels, more than half of the COTRANS candidates were not especially wealthy.

As in 1975, nearly three-fourths of the 1976 COTRANS candidates had fathers with professional or owner/manager occupations. Most notable was a 10 percentage-point difference for "Physician" fathers (22 percent) between 1976 COTRANS candidates and 1974-75 U.S. medical school applicants (12 percent).

Career plan choices of the 1976 COTRANS group differed only slightly from 1975. Nearly two-thirds indicated preferences for "General Practice" and "Specialty Practice." Among 1976 Specialty choices, "Family Practice" (17 percent) was more popular (by 4 percentage-points) than in 1975. A 1976 decline of 3 percentage-points over 1975 was noted for the "Public Health, Community Medicine" category. Of the types of medical practices preferred, "Partnership" and "Private Group" choices showed increases in 1976.

d. Of the three "Other-than-AAMC" re-entry programs for USFMG's and USFMS's, test performance data for the five-year period 1972 through 1976 were only available for the ECFMG program. Because complete national data were not available for the "Fifth Pathway" clerkship program and for FLEX, the coverage of these programs consisted mainly of background descriptions.

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GLOSSARY

ADVANCED STANDING ADMISSION - Admission at any level beyond the first semester of the first-year class in recognition of medical education credits obtained elsewhere and/or qualifying examinations.

CANDIDATE (REFERENCE) GROUP* - Refers to all individuals taking the National Board (NBME) examinations as candidates for credit toward ultimate certification as a Diplomate of the National Board

CCME - Coordinating Council on Medical Education

COTRANS - Coordinated Transfer Application System (a service of the Association of American Medical Colleges).

COTRANS PARTICIPANT - Any COTRANS applicant who has been declared eligible for participation in Part I, NBME (National Board of Medical Examiners).

COTRANS-SPONSORED EXAMINEE - A COTRANS participant who actually wrote the Part I, NBME Test in either June or September of a given year. Also referred to as a COTRANS candidate.

DSS REPORT - Division of Student Studies Technical Report. Usually issued as a separate report to supplement the Annual Applicant Studies published in the Journal of Medical Education.

ECFMG - Educational Commission for Foreign Medical Graduates

FLEX - Federation Licensing Examination

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* The scores of the Candidate Reference Group are standard scores for which the mean is 500 and the standard deviation 100. Second-year candidate performance on the June - September 1976 Part I Examination resulted in a mean total test score of 500 and a standard deviation of 99.

LCGME - Liaison Committee on Graduate Medical Education

USFMG - U.S. Foreign Medical Graduate

USFMS - U.S. Citizen Foreign Medical Student

EXHIBIT 1

COTRANS APPLICATION FORM

SIDE 1

FORM A

PRINT OR TYPE

ASSOCIATION OF AMERICAN MEDICAL COLLEGES

Suite 301, 1776 Massachusetts Avenue, N.W., Washington, D.C. 20036

Coordinated Transfer Application System (202) 466-5104

COTRANS APPLICATION FOR JUNE AND SEPTEMBER 1976

This application will be returned to you if all items are not completed.

1. SSN

2. NAME (LAST / FIRST / MIDDLE INITIAL / SUFFIX)

3. PREFERRED MAILING ADDRESS (STREET / CITY/STATE / ZIP CODE / COUNTRY) TELEPHONE (AREA CODE/NUMBER)

4. PERMANENT ADDRESS FOR MAILING OF NBME SCORES (STREET / CITY/STATE / ZIP CODE / COUNTRY) TELEPHONE (AREA CODE/NUMBER)

5. LEGAL RESIDENCE (STATE) 6. SEX: MALE ( ) FEMALE ( )

7. DATE OF BIRTH (MO. / DAY / YEAR)

8. UNDERGRADUATE COLLEGE (INSTITUTION / CAMPUS/LOCATION/STATE / GRADUATION DATE MO. / YEAR)

9. UNDERGRADUATE GRADE POINT AVERAGE (SCI. MCE / NON-SCIENCE / TOTAL)

10. MOST RECENT MEDICAL COLLEGE ADMISSION TEST SCORES

TEST DATE (MO. / YEAR)	VERBAL SCORE	QUANTITATIVE SCORE	GENERAL INFORMATION SCORE	SCIENCE SCORE
	5	5	5	5

11. CURRENT FOREIGN MEDICAL SCHOOL (INSTITUTION / COUNTRY / DATE ENTERED MO. / YEAR)

12. YEAR OF ENROLLMENT IN FOREIGN MEDICAL SCHOOL: (Please Circle) 1 2 3 4 5 6

13. HAVE YOU BEEN PREVIOUSLY SPONSORED BY COTRANS? Yes ☐ No ☐ If Yes, State Year

14. HAVE YOU PREVIOUSLY TAKEN PART I NBME? Yes ☐ No ☐ If Yes, State Year

15. TEST DATE REQUESTED JUNE EXAM ☐ SEPTEMBER EXAM ☐

COTRANS USE

Certification

I have read and understand the instructions and other information in the COTRANS Information Sheet. I certify that the information submitted in these application materials is complete and correct to the best of my knowledge.

Date _____ Signature _____

Allow ample time for mail delivery prior to deadlines. April 20 is firm deadline for receipt of all correct and complete materials at COTRANS for Part I NBME June, 1976. July 14 is firm deadline for receipt of all correct and complete materials at COTRANS for Part I NBME September, 1976.

SIDE 2

FORM A

PRINT OR TYPE

ASSOCIATION OF AMERICAN MEDICAL COLLEGES

Suite 301, 1776 Massachusetts Avenue, N.W., Washington, D.C. 20036
Coordinated Transfer Application System (202) 466-5104

ENROLLMENT VERIFICATION

This application will be returned to you if all items are not completed.

This section must be completed by an authorized administrative official of the medical school in which you are currently enrolled.

NAME OF STUDENT _____

The above student is currently enrolled, is in good academic standing and will have successfully completed all requirements to earn full credit at this institution in the courses: 1) Anatomy, 2) Biochemistry, 3) Physiology prior to September 10, 1976.

NAME OF SCHOOL _____

ADDRESS _____

_____

COUNTRY _____

TITLE OF OFFICIAL _____

NAME OF OFFICIAL _____

SIGNATURE _____ DATE _____

EXHIBIT 2

COTRANS BROCHURE

3. The following materials must be received by COTRANS no later than April 20, 1976 for the June test, or July 14, 1976 for the September test:

   a. Completed and signed COTRANS application and Enrollment Verification (Form A)
   b. Copy of birth certificate (no originals) or comparable document to establish U.S. citizenship
   c. $20.00 service fee; check or money order (No cash or foreign currency) made out to COTRANS; this fee is not refundable

   All of the above materials should be forwarded to COTRANS together.

4. Upon receipt of all materials COTRANS will verify eligibility for sponsorship. A letter awarding sponsorship will be sent to all eligible applicants. Applicants who are not eligible will be advised.

5. Return to NBME (not to COTRANS) by the same deadlines, April 20, 1976 for the June test and July 14, 1976 for the September test, the following:

   a. NBME Application (Form B)
   b. NBME Fee

   NBME Application and Fee should be submitted, preferably in the envelope provided, to the following address:
   National Board of Medical Examiners
   P. O. Box 8500 S-1330
   Philadelphia, Pennsylvania 19178

6. Applicants who have received a letter of eligiblity from COTRANS will receive information from NBME regarding test registration.

7. The Composite Report of Scores, prepared by NBME, is forwarded to requesting medical schools approximately five weeks after the test has been administered.

8. Individual score reports are mailed by COTRANS to sponsored examinees approximately six weeks after the tests have been administered.

9. Information provided in the COTRANS application materials is treated confidentially. It will be released only to NBME and requesting medical schools. This information may also be used by AAMC and its member institutions for statistical, research, and developmental purposes. Such use is an inherent part of the admissions process; however any use will not disclose the identity of an individual except to NBME and requesting medical schools.

REV. 12/75

Association
of
American
Medical
Colleges

COTRANS

COORDINATED TRANSFER APPLICATION SYSTEM

INFORMATION SHEET

1776 Massachusetts Ave., N.W.
Suite 301
Washington, D.C. 20036
(202) 466-5104

DESCRIPTION

The purpose of COTRANS is to assist U.S. medical schools by evaluating required credentials of U.S. citizen medical students seeking transfer from foreign medical schools to U.S. medical schools. Credentials are evaluated to establish eligibility for COTRANS sponsorship for participation in the Part I Examination of the National Board of Medical Examiners.

Part I, NBME is a comprehensive, interdisciplinary examination covering: 1) Anatomy, 2) Behavioral Sciences, 3) Biochemistry, 4) Microbiology, 5) Pathology, 6) Pharmacology, and 7) Physiology. The examination is administered over two days and must be taken in its entirety. Both subject scores and a total score are reported. Two tests are administered each year. A June test is administered at selected centers in the U.S.A. and Canada and in some foreign countries. A September test is administered only in the (U.S.A.) and Canada.

COTRANS provides requesting U.S. medical schools with Eligibility Summaries of COTRANS-sponsored applicants. These summaries list name, social security number, preferred mailing address, legal residence, birth date, undergraduate college, undergraduate grade point average, most recent MCAT scores, foreign medical school attended and if Part I, NBME was taken previously.

A composite report of Part I, NBME scores of all COTRANS-sponsored examinees is distributed to those U.S. medical schools requesting the report. NBME provides an individual score report which is forwarded by COTRANS to each examinee.

No guarantee for admission to a U.S. medical school is provided to any individual listed as eligible for sponsorship through COTRANS, nor does passing Part I, NBME obligate any requesting school to admit an applicant regardless of the scores achieved in the exam. U.S. medical schools utilize many criteria in selecting students for admission. Achievement on an examination may be one of the criteria, but the determination of how any criteria are used is the privilege of each school.

COTRANS IS NOT A MATCHING OR PLACEMENT SERVICE. Transfer applicants must apply to medical schools directly. All acceptance decisions are made by the admissions committees of the individual schools. A list of medical schools willing to consider transfer applications from COTRANS-sponsored applicants is included in the COTRANS application materials.

COTRANS policies and procedures are primarily developed based on the recommendations and approval of U.S. medical schools. A standing committee with a rotating membership of admissions officers, student affairs officers, a premedical advisor and a medical student considers modifications and recommendations regarding COTRANS procedure and policy changes.

ELIGIBILITY REQUIREMENTS

1. U.S. Citizenship.

2. Current enrollment – and intention to remain enrolled until the examination date – in a foreign medical school currently listed in the World Health Organization publication *World Directory of Medical Schools*. This directory lists medical schools recognized by the governments of the countries where they are located.

   Copies of the *World Directory of Medical Schools*, 1970 may be obtained for $8.00 plus $1.00 for postage and handling from:

   Q Corporation
   49 Sheridan Avenue
   Albany, New York 12210

   Enrollment must be continuous from the time of application for sponsorship by COTRANS until the end of the school's academic period immediately preceding Part I, NBME for which the student is seeking sponsorship.

3. An authorized administrative official of the foreign medical school in which you are currently enrolled must complete and sign the statement on Side 2 of the COTRANS application. This statement verifies current enrollment, good academic standing and anticipated successful completion of 1) Anatomy; 2) Biochemistry, and 3) Physiology by the time of the test. The official should be the Dean of Students or an individual of similar administrative responsibility. COTRANS reserves the right to establish the authenticity of the Enrollment Verification by direct communication with the signer. Medical schools may require applicants taking Part I, NBME through COTRANS sponsorship, to document academic accomplishment through submission of official transcripts. The Enrollment Verification is only for determining COTRANS eligibility.

4. Not Eligible to participate in COTRANS are:
   a. Foreign Nationals
   b. Medical students seeking to transfer between U.S. medical schools
   c. Dental students
   d. Graduate students
   e. Osteopathic students
   f. Students not currently enrolled as prescribed in Item 2 above.

   Applicants in the above categories must be sponsored for Part I, NBME by a U.S. medical school where they plan to apply.

5. Applicants who have been previously sponsored by COTRANS must follow the entire application procedure again.

6. A student who has taken Part I, NBME through COTRANS in June may not repeat the following September. A second test for an individual sponsored by COTRANS in the same calendar year must be requested from the NBME by a U.S. medical school interested in sponsoring that individual. Ordinarily only three attempts to pass Part I, NBME are permitted.

PROCEDURES IN THE EVENT OF AN IRREGULARITY IN THE APPLICATION PROCESS OR IN TEST ADMINISTRATION

Application Process

Applicants are expected to provide full and accurate information in their COTRANS application materials. If any falsification or other irregularity is suspected by or reported to AAMC and a review confirms its significance, the applicant will be notified and asked to respond. Thereafter, if it is determined that an irregularity has occurred, a report thereof will be circulated to the admissions officers of all U.S. medical schools requesting the Eligibility Summaries or Composite Report of Scores for that sponsorship cycle and the individual or individuals involved will be ineligible for future COTRANS sponsorship. Treatment of such situations is supervised by AAMC according to written policy and procedures established by its Executive Council.

Test Administration

If the National Board of Medical Examiners determines that an irregularity has occurred in testing, NBME will report to COTRANS that the scores of the individual or individuals involved in the irregularity are being withheld. The Composite Score Report will indicate that the scores of these individuals are withheld. Individuals whose scores are being withheld will be notified by NBME. NBME reserves the right to bar from all future exams sponsored by NBME, individuals who have committed an irregularity.

For both the application process and test administration if the existence of an irregularity is confirmed any time *after* Eligibility Summaries or Composite Score Reports have been circulated to the requesting schools, the schools which have received such summaries or reports will be notified.

These procedures, though very seldom needed, help insure the maintenance of the high ethical standards in the medical school admission process.

APPLICATION PROCEDURE

1. Application materials are available from January to July 1976.

2. Application materials include the following forms and lists:
   a. COTRANS Information Sheet
   b. COTRANS Application (Form A)
   c. COTRANS Return Envelope
   d. NBME Return Envelope
   e. NBME Application for Registration for Part I, including identification forms (Form B)
   f. NBME Book of Instructions for Application, including lists of test centers
   g. List of U.S. medical schools willing to consider application from COTRANS-sponsored applicants

APPENDIX A

DISTRIBUTION BY STATE OF RESIDENCE OF COTRANS-SPONSORED EXAMINEES, PART I, NBME EXAMINATIONS, 1972 THROUGH 1976

APPENDIX TABLE A-1

Distribution by State of Residence of COTRANS-Sponsored Examinees, Part I, NBME Examinations, 1972 Through 1976*

State of Residence	1972		1973		1974		1975		1976	
	No.	Percent	No.	Percent	No.	Percent	No.	Percent	No.	Percent
Total Examined	676	100.0	957	100.0	810	100.0	664	100.0	852	100.0
Alabama	2	0.3	2	0.2	3	0.4	2	0.3	1	0.1
Alaska	--	--	--	--	1	0.1	--	--	1	0.1
Arizona	4	0.6	14	1.5	9	1.1	8	1.2	5	0.6
Arkansas	2	0.3	3	0.3	2	0.2	--	--	--	--
California	79	11.7	157	16.4	115	14.2	65	9.8	90	10.6
Colorado	3	0.4	8	0.8	12	1.5	2	0.3	2	0.2
Connecticut	15	2.2	9	0.9	15	1.9	18	2.7	14	1.6
Delaware	--	--	--	--	--	--	--	--	--	--
District Of Columbia	--	--	1	0.1	--	--	1	0.2	--	--
Florida	24	3.6	33	3.4	34	4.2	37	5.6	31	3.6
Georgia	2	0.3	3	0.3	3	0.4	3	0.5	2	0.2
Hawaii	--	--	--	--	--	--	1	0.2	1	0.1
Idaho	--	--	2	0.2	1	0.1	1	0.2	1	0.1
Illinois	23	3.4	42	4.4	40	4.9	16	2.4	21	2.5
Indiana	2	0.3	3	0.3	3	0.4	2	0.3	4	0.5
Iowa	2	0.3	1	0.1	2	0.2	--	--	--	--
Kansas	2	0.3	5	0.5	5	0.6	4	0.6	4	0.5
Kentucky	1	0.1	4	0.4	2	0.2	--	--	--	--
Louisiana	1	0.1	2	0.2	--	--	--	--	2	0.2
Maine	--	--	2	0.2	2	0.2	1	0.2	3	0.4
Maryland	4	0.6	12	1.3	11	1.4	8	1.2	16	1.9
Massachusetts	11	1.6	19	2.0	16	2.0	18	2.7	26	3.1
Michigan	3	0.4	9	0.9	7	0.9	7	1.1	5	0.6
Minnesota	--	--	--	--	2	0.2	1	0.2	--	--
Mississippi	--	--	--	--	1	0.1	1	0.2	--	--

APPENDIX TABLE A-1 (Continued)

State of Residence	1972		1973		1974		1975		1976	
	No.	Percent	No.	Percent	No.	Percent	No.	Percent	No.	Percent
Missouri	2	0.3	7	0.7	6	0.7	4	0.6	--	--
Montana	--	--	1	0.1	--	--	--	--	--	--
Nebraska	1	0.1	--	--	--	--	--	--	--	--
Nevada	--	--	--	--	1	0.1	--	--	1	0.1
New Hampshire	--	--	--	--	--	--	1	0.2	3	0.4
New Jersey	125	18.5	136	14.2	100	12.3	92	13.9	126	14.8
New Mexico	8	1.2	2	0.2	3	0.4	--	--	1	0.1
New York	216	32.0	289	30.2	239	29.5	277	41.7	326	38.3
North Carolina	--	--	--	--	--	--	1	0.2	1	0.1
North Dakota	--	--	--	--	1	0.1	--	--	--	--
Ohio	26	3.8	35	3.7	24	3.0	9	1.4	14	1.6
Oklahoma	--	--	--	--	--	--	--	--	1	0.1
Oregon	1	0.1	--	--	--	--	--	--	4	0.5
Pennsylvania	40	5.9	37	3.9	33	4.1	24	3.6	30	3.5
Rhode Island	3	0.4	4	0.4	3	0.4	4	0.6	9	1.1
South Carolina	3	0.4	1	0.1	1	0.1	--	--	2	0.2
South Dakota	1	0.1	--	--	--	--	--	--	1	0.1
Tennessee	2	0.3	3	0.3	3	0.4	2	0.3	3	0.4
Texas	26	3.8	54	5.6	35	4.3	16	2.4	35	4.1
Utah	4	0.6	6	0.6	3	0.4	3	0.5	3	0.4
Vermont	--	--	--	--	--	--	--	--	1	0.1
Virginia	1	0.1	--	--	1	0.1	9	1.4	6	0.7
Washington	4	0.6	4	0.4	1	0.1	--	--	3	0.4
West Virginia	1	0.1	2	0.2	2	0.2	1	0.2	2	0.2
Wisconsin	1	0.1	8	0.8	5	0.6	2	0.3	8	0.9
Wyoming	1	0.1	--	--	1	0.1	--	--	--	--
Puerto Rico	7	1.0	12	1.3	15	1.9	21	3.2	40	4.7
U.S. Territories & Possessions	--	--	--	--	--	--	--	--	1	0.1
Unidentified	22	3.3	24	2.5	24	3.0	2	0.3	--	--
Foreign	1	0.1	1	0.1	23	2.8	--	--	2	0.2

*Percentages do not add due to rounding and should be regarded with caution because of small N's.

APPENDIX B

MCAT SCORES AND UNDERGRADUATE COLLEGE GRADES
OF COTRANS-SPONSORED EXAMINEES
BY DEMOGRAPHIC AND CAREER CHOICE VARIABLES
AND BY PASS/FAIL STATUS, PART I OF 1976 NBME EXAMINATIONS

The N of Appendix B tables varies from the N of tables in the main portion of the study because appendix tables are limited to COTRANS participants who applied to U.S. medical schools prior to entering foreign medical study.

APPENDIX TABLE B-1

MCAT Scores and Undergraduate College Grades of COFRANS-Sponsored Examinees by Self-Description and by Pass/Fail Status, Part I of the 1976 NBME Examinations

Examinees by Self-Description	No. with MCATS	% with MCATS	Mean MCAT Scores				No. with GPAs	% with GPAs	Mean UG GPAs			Total Number	%
			VER	QUA	GEN	SCI			BCPM	AO	TOTAL		
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)
Total													
Passed	294	57.2	558	582	559	573	256	60.1	2.85	3.04	2.95	295	57.2
Failed	220	42.8	516	543	520	519	170	39.9	2.67	3.02	2.83	221	42.8
Total	514	100.0	540	565	542	550	426	100.0	2.78	3.03	2.90	516	100.0
American Indian													
Passed	2	50.0	605	635	560	620	2	50.0	2.93	2.94	2.92	2	50.0
Failed	2	50.0	610	565	520	620	2	50.0	3.13	3.00	3.07	2	50.0
Total	4	0.8	607	600	540	620	4	0.9	3.03	2.97	2.99	4	0.8
White/Caucasian													
Passed	178	57.2	561	587	560	578	157	57.5	2.86	3.04	2.94	178	57.2
Failed	133	42.8	534	561	536	539	116	42.5	2.67	3.02	2.82	133	42.8
Total	311	60.5	550	576	550	561	273	64.1	2.78	3.03	2.89	311	60.3
Oriental/Asian-American													
Passed	5	55.6	505	601	523	555	5	62.5	2.98	2.94	2.98	5	55.6
Failed	4	44.4	480	512	447	482	3	37.5	2.55	2.77	2.64	4	44.4
Total	9	1.8	493	561	489	522	8	1.9	2.82	2.88	2.85	9	1.7
Hispanic American*													
Passed	3	14.2	436	473	503	466	0	--	--	--	--	3	14.3
Failed	18	85.7	424	483	450	436	6	100.0	2.79	2.79	2.77	18	85.7
Total	21	4.1	426	481	458	440	6	1.4	2.79	2.79	2.77	21	4.1
Other													
Passed	15	51.7	546	565	556	571	14	51.9	2.89	3.03	2.98	15	51.7
Failed	14	48.3	496	491	506	500	13	48.1	2.64	3.02	2.84	14	48.3
Total	29	5.6	522	529	532	537	27	6.3	2.77	3.03	2.92	29	5.6
No Response													
Passed	91	65.0	559	576	560	566	78	72.2	2.83	3.07	2.95	91	64.8
Failed	49	35.0	507	535	513	499	30	27.8	2.65	3.08	2.87	49	35.2
Total	140	27.2	541	562	543	542	108	25.4	2.78	3.07	2.93	140	27.5

*Includes Mexican Americans and Mainland Puerto Ricans.

APPENDIX TABLE B-2

MCAT Scores and Undergraduate College Grades of COTRANS-Sponsored Examinees by Parental Income and by Pass/Fail Status, Part I of the 1976 NBME Examinations

Examinees by Parental Income	No. with MCATS	% with MCATS	Mean MCAT Scores				No. with GPAs	% with GPAs	Mean UG GPAs			Total Number	%
			VER	QUA	GEN	SCI			BCPM	AO	TOTAL		
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)
Total													
Passed	294	57.2	558	582	559	573	256	60.1	2.85	3.04	2.95	295	57.2
Failed	220	42.8	516	543	520	519	170	39.9	2.67	3.02	2.83	221	42.8
Total	514	100.0	540	565	542	550	426	100.0	2.78	3.03	2.90	516	100.0
Less than $5,000													
Passed	8	30.7	575	588	567	565	8	44.4	2.87	2.76	2.91	8	30.7
Failed	18	69.3	474	498	478	477	10	55.6	2.80	2.96	2.86	18	69.2
Total	26	5.1	505	526	506	504	18	4.2	2.83	2.87	2.89	26	5.0
$5,000 - 9,999													
Passed	27	57.4	546	559	560	552	21	58.3	2.88	3.00	2.93	27	57.4
Failed	20	42.6	509	560	499	534	15	41.7	2.78	2.88	2.84	20	42.6
Total	47	9.1	530	559	534	544	36	8.4	2.84	2.95	2.89	47	9.1
$10,000 - 14,999													
Passed	43	50.0	565	582	575	595	38	50.7	2.92	3.08	2.99	43	50.0
Failed	43	50.0	536	543	523	530	37	49.3	2.72	3.11	2.89	43	50.0
Total	86	16.7	550	562	549	563	75	17.6	2.82	3.09	2.94	86	16.7
$15,000 - 19,999													
Passed	39	72.2	547	592	541	572	34	72.3	2.81	3.05	2.94	39	72.2
Failed	15	27.8	514	553	492	531	13	27.7	2.72	3.00	2.85	15	27.8
Total	54	10.5	538	581	528	561	47	11.0	2.79	3.04	2.92	54	10.5
$20,000 or more													
Passed	109	57.7	557	575	556	568	100	59.2	2.84	3.04	2.93	109	57.7
Failed	80	42.3	529	548	543	528	69	40.8	2.59	2.98	2.78	80	42.3
Total	189	36.8	545	564	551	551	169	39.6	2.74	3.02	2.87	189	36.6
No Response													
Passed	68	60.7	562	594	560	574	55	67.9	2.85	3.08	2.96	69	60.5
Failed	44	39.3	496	543	511	499	26	32.1	2.65	3.09	2.85	45	39.5
Total	112	21.8	536	574	541	545	81	19.0	2.79	3.08	2.93	114	22.1

APPENDIX TABLE B-3

MCAT Scores and Undergraduate College Grades of COTRANS-Sponsored Examinees
By Father's Occupation and by Pass/Fail Status, Part I of the 1976 NBME Examinations

Examinees by Father's Occupation	No. with MCATS	% with MCATS	Mean MCAT Scores				No. with GPAs	% with GPAs	Mean UG GPAs			Total Number	%
			VER	QUA	GEN	SCI			BCPM	AO	TOTAL		
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)
Total													
Passed	294	57.2	558	582	559	573	256	60.1	2.85	3.04	2.95	295	57.2
Failed	220	42.8	516	543	520	519	170	39.9	2.67	3.02	2.83	221	42.8
Total	514	100.0	540	565	542	550	426	100.0	2.78	3.03	2.90	516	100.0
Physician													
Passed	56	56.6	568	564	548	552	52	59.1	2.80	3.05	2.91	56	56.6
Failed	43	43.4	528	540	535	521	36	40.9	2.55	2.90	2.70	43	43.4
Total	99	19.3	550	553	542	538	88	20.7	2.69	2.98	2.82	99	19.2
Other Health Occupation													
Passed	21	46.7	578	597	581	605	19	48.7	2.84	3.00	2.94	21	46.7
Failed	24	53.3	515	552	537	512	20	51.3	2.82	3.08	2.96	24	53.3
Total	45	8.8	544	573	558	555	39	9.2	2.83	3.08	2.95	45	8.7
Other Profession													
Passed	73	67.0	552	585	562	571	67	67.7	2.84	3.03	2.93	73	67.0
Failed	36	33.0	533	556	528	528	32	32.3	2.61	2.95	2.80	36	33.0
Total	109	21.2	546	576	551	557	99	23.2	2.76	3.00	2.89	109	21.1
Owner, Manager, Administrator (Non-Farm)													
Passed	47	59.5	542	575	538	563	40	57.1	2.97	3.01	2.99	47	59.5
Failed	32	40.5	517	550	513	539	30	42.9	2.68	3.05	2.84	32	40.5
Total	79	15.4	532	565	528	553	70	16.4	2.85	3.03	2.93	79	15.3
Clerical or Sales Worker													
Passed	19	57.6	568	563	561	566	15	62.5	2.67	3.20	2.93	19	57.6
Failed	14	42.4	531	522	497	545	9	37.5	2.78	3.30	2.99	14	42.4
Total	33	6.4	552	546	534	557	24	5.6	2.71	3.24	2.95	33	6.4

APPENDIX TABLE B-3 (Continued)

Examinees by Father's Occupation	No. with MCATS	% with MCATS	Mean MCAT Scores				No with GPAs	% with GPAs	Mean UG GPAs			Total Number	%
			VER	QUA	GEN	SCI			BCPM	AO	TOTAL		
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)
Craftsman, Skilled Worker													
Passed	16	61.5	559	617	583	590	13	65.0	2.83	2.74	2.81	16	61.5
Failed	10	38.5	518	561	554	541	7	35.0	2.70	3.11	2.90	10	38.5
Total	26	5.1	543	595	573	571	20	4.7	2.78	2.89	2.84	26	5.0
Unskilled Worker (Non-Farm)													
Passed	7	63.6	540	550	542	580	6	66.7	2.99	3.06	3.01	7	63.6
Failed	4	36.4	507	517	500	522	3	33.3	2.60	3.05	2.78	4	36.4
Total	11	2.1	528	538	526	559	9	2.1	2.86	3.06	2.93	11	2.1
Farmer or Farm Worker													
Passed	5	55.6	487	571	541	593	4	80.0	3.03	3.04	3.05	5	55.6
Failed	4	44.4	507	530	520	517	1	20.0	1.80	2.96	2.88	4	44.4
Total	9	1.8	496	552	531	559	5	1.2	2.99	3.03	3.02	9	1.7
Homemaker													
Passed	0	0.0	--	--	--	--	0	--	--	--	--	0	0.0
Failed	1	100.0	485	495	465	565	1	100.0	3.31	3.27	3.29	1	100.0
Total	1	0.2	485	495	465	565	1	0.2	3.31	3.27	3.29	1	0.2
Other													
Passed	15	38.5	561	583	557	583	15	45.5	2.94	3.14	3.02	15	38.5
Failed	24	61.5	489	509	486	480	18	54.5	2.78	3.06	2.90	24	61.5
Total	39	7.6	517	537	513	519	33	7.7	2.85	3.10	2.95	39	7.6
No Response													
Passed	35	55.6	569	604	577	589	25	65.8	2.86	3.12	3.00	36	55.4
Failed	28	44.4	498	560	513	499	13	34.2	2.60	3.01	2.78	29	44.6
Total	63	12.3	537	584	548	549	38	8.9	2.77	3.08	2.92	65	12.6

APPENDIX TABLE B-4

MCAT Scores and Undergraduate College Grades of COTRANS-Sponsored Examinees
By Career Activity Plans and by Pass/Fail Status, Part I of the 1976 NBME Examinations

Examinees by Career Activity Plans	No. with MCATS	% with MCATS	Mean MCAT Scores				No. with GPAs	% with GPAs	Mean UG GPAs			Total Number	
			VER	QUA	GEN	SCI			BCPM	AO	TOTAL		
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)
Total													
Passed	294	57.2	558	582	559	573	256	60.1	2.85	3.04	2.95	295	57.2
Failed	220	42.8	516	543	520	519	170	39.9	2.67	3.02	2.83	221	42.8
Total	514	100.0	540	565	542	550	426	100.0	2.78	3.03	2.90	516	100.0
General Practice													
Passed	78	53.1	560	564	560	570	70	54.6	2.8.	3.07	2.95	78	53.1
Failed	69	46.9	521	538	518	516	58	45.3	2.68	2.99	2.80	69	46.9
Total	147	28.6	542	552	540	544	128	30.0	2.76	3.04	2.88	147	28.5
Specialty Practice													
Passed	100	60.2	556	583	562	566	87	63.0	2.88	3.08	2.96	100	60.2
Failed	66	39.8	507	533	516	506	51	37.0	2.60	2.99	2.81	66	39.8
Total	166	32.3	536	563	544	542	138	32.4	2.77	3.05	2.90	166	32.2
Research and/or Teaching													
Passed	12	75.0	593	600	587	620	12	75.0	2.75	2.90	2.84	12	75.0
Failed	4	25.0	532	585	512	562	4	25.0	2.44	2.78	2.57	4	25.0
Total	16	3.1	578	596	568	606	16	3.8	2.67	2.87	2.77	16	3.1
Combination of Specialty Practice, Research, and/or Teaching													
Passed	42	50.0	560	604	555	586	37	53.6	2.85	2.97	2.92	42	50.0
Failed	42	50.0	508	544	514	529	32	46.4	2.70	3.05	2.87	42	50.0
Total	84	16.3	534	574	535	558	69	16.2	2.78	3.01	2.90	84	16.3
Other													
Passed	7	63.6	582	546	572	560	7	63.6	2.87	2.83	2.85	7	63.6
Failed	4	36.4	622	585	582	562	4	36.4	2.43	2.81	2.60	4	36.4
Total	11	2.1	596	560	575	561	11	2.6	2.71	2.83	2.76	11	2.1
Undecided													
Passed	41	66.1	542	578	546	561	38	66.7	2.88	3.08	2.97	41	66.1
Failed	21	33.9	545	590	537	562	19	33.3	2.84	3.20	3.00	21	33.9
Total	62	12.1	543	582	543	562	57	13.4	2.86	3.12	2.98	62	12.0
No Response													
Passed	14	50.0	554	618	547	593	5	71.4	2.88	2.99	2.94	15	50.0
Failed	14	50.0	486	525	522	472	2	28.6	2.91	2.91	2.94	15	50.0
Total	28	5.4	520	572	535	533	7	1.6	2.89	2.97	2.94	30	5.8

APPENDIX TABLE B-5

MCAT Scores and Undergraduate College Grades of COTRANS-Sponsored Examinees
By Specialization Plans and by Pass/Fail Status, Part I of the 1976 NBME Examinations

Examinees by Specialization Plans	No. with MCATS	% with MCATS	Mean MCAT Scores				No. with GPAs	% with GPAs	Mean UG GPAs			Total Number	%
			VER	QUA	GEN	SCI			BCPM	AO	TOTAL		
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)
Total													
Passed	294	57.2	558	582	559	573	256	60.1	2.85	3.04	2.95	295	57.2
Failed	220	42.8	516	543	520	519	170	39.9	2.67	3.02	2.83	221	42.8
Total	514	100.0	540	565	542	550	426	100.0	2.78	3.03	2.90	516	100.0
Basic Medical Science													
Passed	8	53.3	576	602	590	543	6	54.5	2.61	2.85	2.76	8	53.3
Failed	7	46.7	540	555	530	570	5	45.5	2.66	2.65	2.65	7	46.7
Total	15	2.9	559	580	562	556	11	2.6	2.64	2.76	2.71	15	2.9
Family Practice													
Passed	48	60.0	551	551	542	571	43	60.6	2.89	3.09	3.00	48	60.0
Failed	32	40.0	517	542	514	510	28	39.4	2.68	3.03	2.83	32	40.0
Total	80	15.6	537	548	531	546	71	16.6	2.81	3.07	2.93	80	15.5
Internal Medicine													
Passed	26	65.0	516	576	559	580	26	68.4	2.83	2.99	2.90	26	65.0
Failed	14	35.0	535	548	523	537	12	31.6	2.68	3.09	2.83	14	35.0
Total	40	7.8	542	567	546	565	38	8.9	2.78	3.02	2.88	40	7.8
Obstetrics/Gynecology													
Passed	13	46.4	558	597	579	593	13	56.5	2.87	2.97	2.93	13	46.4
Failed	15	53.6	462	449	501	477	10	43.5	2.42	2.96	2.67	15	53.6
Total	28	5.4	507	518	537	531	23	5.4	2.67	2.97	2.82	28	5.4
Pediatrics													
Passed	28	54.9	574	570	557	569	21	53.8	2.87	3.13	2.97	28	54.9
Failed	23	45.1	507	533	541	507	18	46.2	2.57	3.03	2.82	23	45.1
Total	51	9.9	544	554	550	541	39	9.2	2.73	3.08	2.90	51	9.9
Psychiatry													
Passed	16	57.1	577	558	586	561	16	59.3	2.72	3.08	2.91	16	57.1
Failed	12	42.9	551	581	554	561	11	40.7	2.58	3.09	2.85	12	42.9
Total	28	5.4	566	568	572	561	27	6.3	2.66	3.08	2.88	28	5.4
Public Health, Community Medicine													
Passed	10	43.5	613	670	597	593	9	45.0	2.76	2.98	2.84	10	43.5
Failed	13	56.5	564	547	555	519	11	55.0	2.83	3.03	2.94	13	56.5
Total	23	4.5	585	600	573	551	20	4.7	2.80	3.01	2.90	23	4.5

APPENDIX TABLE B-5 (Continued)

Examinees by Specialization Plans	No. with MCATS	% with MCATS	Mean MCAT Scores				No. with GPAs	% with GPAs	Mean UG GPAs			Total Number	%
			VER	QUA	GEN	SCI			BCPM	AO	TOTAL		
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)
Surgery or Surgical Specialty													
Passed	47	57.3	533	568	547	553	42	60.9	2.85	2.98	2.90	47	57.3
Failed	35	42.7	497	547	485	501	27	39.1	2.68	3.01	2.84	35	42.7
Total	82	16.0	517	559	520	531	69	16.2	2.78	2.99	2.87	82	15.9
Other Known Specialty													
Passed	13	56.5	586	593	558	591	11	57.9	2.88	2.86	2.91	13	56.5
Failed	10	43.5	506	525	517	514	8	42.1	2.65	2.88	2.76	10	43.5
Total	23	4.5	551	563	540	557	19	4.5	2.77	2.87	2.85	23	4.5
Plan to Specialize - Area Unknown													
Passed	19	63.3	581	610	598	605	17	73.9	2.84	3.21	3.02	19	63.3
Failed	11	36.7	504	566	505	555	6	26.1	2.70	3.27	2.98	11	36.7
Total	30	5.8	553	594	564	587	23	5.4	2.81	3.23	3.01	30	5.8
Do Not Plan to Specialize													
Passed	5	27.8	579	621	543	557	5	31.3	2.86	3.14	3.00	5	27.8
Failed	13	72.2	537	555	499	521	11	68.7	2.62	2.76	2.66	13	72.2
Total	18	3.5	548	573	511	531	16	3.8	2.69	2.88	2.77	18	3.5
Undecided													
Passed	47	69.1	547	589	550	569	42	67.7	2.92	3.08	3.00	47	69.1
Failed	21	30.9	545	585	548	553	20	32.3	2.83	3.14	2.97	21	30.9
Total	68	13.2	546	587	549	564	62	14.6	2.89	3.10	2.99	68	13.2
No Response													
Passed	14	50.0	554	618	547	593	5	62.5	2.88	2.99	2.94	15	50.0
Failed	14	50.0	490	533	531	491	3	37.5	2.73	3.05	2.87	15	50.0
Total	28	5.4	522	576	539	542	8	1.9	2.82	3.01	2.91	30	5.8

APPENDIX TABLE B-6

MCAT Scores and Undergraduate College Grades of COTRANS-Sponsored Examinees
By Expected Character of Medical Practice and by Pass/Fail Status, Part I of the 1976 NBME Examinations

Examinees by Expected Character of Medical Practice	No. with MCATS	% with MCATS	Mean MCAT Scores				No. with GPAs	% with GPAs	Mean UG GPAs			Total Number	%
			VER	QUA	GEN	SCI			BCPM	AC	TOTAL		
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)
Total													
Passed	294	57.2	558	582	559	573	256	60.1	2.85	3.04	2.95	295	57.2
Failed	220	42.8	516	543	520	5519	170	39.9	2.67	3.02	2.83	221	42.8
Total	514	100.0	540	565	542	550	426	100.0	2.78	3.03	2.90	516	100.0
Individual													
Passed	62	54.9	560	568	552	580	54	58.1	2.92	3.16	3.05	62	54.9
Failed	51	45.1	501	541	500	525	39	41.9	2.64	2.97	2.79	51	45.1
Total	113	22.0	533	556	529	536	93	21.8	2.61	3.09	2.94	113	21.9
Partnership													
Passed	50	59.5	545	560	538	551	45	63.4	2.84	3.00	2.91	50	59.5
Failed	34	40.5	514	539	524	506	26	36.6	2.65	3.19	2.92	34	40.5
Total	84	16.3	532	551	533	533	71	16.7	2.78	3.08	2.91	84	16.3
Private Group													
Passed	33	60.0	558	583	563	564	29	59.2	2.68	3.00	2.86	33	60.0
Failed	22	40.0	554	548	527	535	20	40.8	2.75	2.90	2.80	22	40.0
Total	55	10.7	557	569	549	552	49	11.5	2.71	2.97	2.83	55	10.7
Hospital-Based Group													
Passed	54	59.3	563	594	578	573	50	64.9	2.82	3.06	2.92	54	59.3
Failed	37	40.7	507	527	499	510	27	35.1	2.59	2.92	2.70	37	40.7
Total	91	17.7	540	567	546	547	77	18.0	2.74	3.02	2.85	91	17.6
Full-Time Teaching and/or Research													
Passed	7	58.3	555	617	507	595	6	60.0	2.83	2.60	3.00	7	58.3
Failed	5	41.7	539	543	509	551	4	40.0	2.25	2.50	2.50	5	41.7
Total	12	2.3	548	586	508	576	10	2.3	2.70	2.55	2.80	12	2.3
Public Health													
Passed	13	40.6	572	597	571	575	11	39.3	2.81	3.00	2.90	13	40.6
Failed	19	59.4	545	567	541	538	17	60.7	2.70	3.00	2.82	19	59.4
Total	32	6.2	556	579	553	553	28	6.6	2.75	3.00	2.85	32	6.2
Industrial													
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APPENDIX TABLE B-6 (Continued)

Examinees by Expected Character of Medical Practice	No. with MCATS	% with MCATS	Mean MCAT Scores				No. with GPAs	% with GPAs	Mean UG GPAs			Total Number	%
			VER	QUA	GEN	SCI			BCPM	AO	TOTAL		
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)
Medical Administration	--	--	--	--	--	--	--	--	--	--	--	--	--
Other													
Passed	7	87.5	535	525	540	539	7	87.5	2.99	2.99	2.99	7	87.5
Failed	1	12.5	475	395	585	395	1	12.5	2.49	3.17	2.82	1	12.5
Total	8	1.6	527	508	546	521	8	1.9	2.92	3.01	2.97	8	1.6
Undecided													
Passed	54	60.0	562	595	572	584	49	59.8	2.87	2.97	2.93	54	60.0
Failed	36	40.0	525	558	543	526	33	40.2	2.66	3.06	2.87	36	40.0
Total	90	17.5	547	580	562	561	82	19.2	2.80	3.02	2.91	90	17.4
No Response													
Passed	14	48.3	554	618	547	593	5	62.5	2.88	3.00	2.94	15	48.3
Failed	15	51.7	485	541	524	483	3	37.5	2.82	2.64	2.75	16	51.6
Total	29	5.6	518	578	535	536	8	1.9	2.86	2.86	2.87	31	6.0

APPENDIX C

MCAT SCORES AND UNDERGRADUATE COLLEGE GRADES OF APPLICANTS BY ACCEPTANCE STATUS AND BY DEMOGRAPHIC AND CAREER CHOICE VARIABLES, 1974-75 FIRST-YEAR CLASS

The percentages shown in Appendix C tables include the "No Response" category and therefore vary from the tables in the text.

Source: DSS Report 76-3, Medical School Applicants, 1974-75, Supplementary Tables

APPENDIX TABLE C-1

MCAT Scores and Undergraduate College Grades of Applicants

by Acceptance Status and by Parental Income, 1974-75 First-Year Class

Applicants by Parental Income (1)	Number With MCATS (2)	Percent With MCATS (3)	Mean MCAT Scores VER (4)	QUA (5)	GEN (6)	SCI (7)	Number With GPAS (8)	Percent With GPAS (9)	Mean UG GPAS BCPM (10)	AO (11)	TOTAL (12)	Total All (13)	Percent (14)
TOTAL													
Accepted	14,943	35.6	563	610	559	603	13,609	36.9	3.44	3.46	3.45	15,066	35.3
Non-Accepted	26,921	64.3	518	555	518	532	23,193	63.0	2.98	3.12	3.05	27,558	64.6
Total	41,864	100.0	534	575	532	558	36,802	100.0	3.15	3.25	3.20	42,624	100.0
Less than $5,000													
Accepted	868	31.4	508	554	504	547	774	34.7	3.17	3.29	3.22	868	31.4
Non-Accepted	1,888	68.5	477	513	479	487	1,453	65.2	2.84	3.02	2.93	1,889	68.5
Total	2,756	6.5	487	526	487	506	2,227	6.0	2.95	3.11	3.03	2,757	6.4
$5,000 - $9,000													
Accepted	1,606	31.7	541	591	539	583	1,453	34.2	3.38	3.42	3.40	1,606	31.7
Non-Accepted	3,452	68.2	504	539	506	516	2,788	65.7	2.96	3.10	3.03	3,453	68.2
Total	5,058	12.0	516	556	517	537	4,241	11.5	3.10	3.21	3.15	5,059	11.8
$10,000 - $11,999													
Accepted	1,570	31.6	554	603	554	598	1,399	32.8	3.44	3.46	3.45	1,570	31.6
Non-Accepted	3,388	68.3	514	553	517	533	2,859	67.1	3.00	3.13	3.06	3,388	68.3
Total	4,958	11.8	526	569	529	553	4,258	11.5	3.14	3.24	3.19	4,958	11.6
$12,000 - $14,999													
Accepted	2,019	34.5	558	614	557	606	1,816	35.6	3.50	3.50	3.50	2,020	34.5
Non-Accepted	3,833	65.5	518	556	519	533	3,277	64.3	3.00	3.15	3.07	3,833	65.4
Total	5,852	13.9	532	576	532	558	5,093	13.8	3.18	3.28	3.23	5,853	13.7
$15,000 - $19,999													
Accepted	2,545	35.7	568	619	564	611	2,300	37.0	3.47	3.48	3.47	2,545	35.7
Non-Accepted	4,576	64.2	525	567	525	544	3,902	62.9	3.00	3.14	3.07	4,578	64.2
Total	7,121	17.0	541	586	539	568	6,202	16.8	3.17	3.27	3.22	7,123	16.7
$20,000 - $24,999													
Accepted	1,952	39.7	573	621	568	613	1,788	40.4	3.52	3.51	3.52	1,952	39.7
Non-Accepted	2,963	60.2	525	569	521	542	2,632	59.5	3.04	3.18	3.11	2,963	60.2
Total	4,915	11.7	544	587	540	570	4,420	12.0	3.23	3.32	3.27	4,915	11.5
$25,000 - $49,999													
Accepted	2,579	41.7	581	623	574	615	2,388	42.6	3.47	3.47	3.47	2,579	41.7
Non-Accepted	3,602	58.2	529	567	526	545	3,209	57.3	3.01	3.14	3.08	3,602	58.2
Total	6,181	14.7	551	590	546	574	5,597	15.2	3.21	3.29	3.24	6,181	14.5

APPENDIX TABLE C-1 (Continued)

Applicants by Parental Income (1)	Number With MCATS (2)	Percent With MCATS (3)	Mean MCAT Scores VER (4)	QUA (5)	GEN (6)	SCI (7)	Number With GPAS (8)	Percent With GPAS (9)	Mean UG GPAS BCPM (10)	AO (11)	TOTAL (12)	Total All (13)	Percen (14)
$50,000 or More													
Accepted	1,316	42.3	576	615	568	605	1,246	44.0	3.41	3.41	3.41	1,316	42.3
Non-Accepted	1,795	57.7	527	556	523	532	1,584	55.9	2.93	3.09	3.01	1,795	57.7
Total	3,111	7.4	548	581	542	563	2,830	7.6	3.14	3.23	3.19	3,111	7.3
No Response													
Accepted	486	25.5	580	619	572	608	445	23.0	3.32	3.36	3.34	610	22.8
Non-Accepted	1,424	74.4	535	561	536	542	1,489	76.9	2.89	3.03	2.96	2,057	77.1
Total	1,912	4.5	546	576	545	559	1,934	5.2	2.99	3.10	3.05	2,667	6.2

APPENDIX TABLE C-2

MCAT Scores and Undergraduate College Grades of Applicants

by Acceptance Status and by Father's Occupation, 1974-75 First-Year Class

Applicants by Father's Occupation	Number With MCATS	Percent With MCATS	Mean MCAT Scores				Number With GPAS	Percent With GPAS	Mean UG GPAS			Total All	Percent
			VER	QUA	GEN	SCI			BCPM	AO	TOTAL		
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)
TOTAL													
Accepted	14,943	35.6	563	610	559	603	13,609	36.9	3.44	3.46	3.45	15,066	35.3
Non-Accepted	26,921	64.3	518	555	518	532	23,193	63.0	2.98	3.12	3.05	27,558	64.6
Total	41,864	100.0	534	575	532	558	36,802	100.0	3.15	3.25	3.20	42,624	100.0
Physician													
Accepted	1,999	40.9	572	609	566	600	1,861	42.8	3.38	3.41	3.39	1,999	40.9
Non-Accepted	2,881	59.0	525	551	524	531	2,479	57.1	2.89	3.05	2.97	2,881	59.0
Total	4,880	11.6	544	575	541	560	4,340	11.7	3.10	3.20	3.15	4,880	11.4
Other Health Profession													
Accepted	625	37.0	570	619	567	616	561	38.3	3.49	3.52	3.50	625	37.0
Non-Accepted	1,063	62.9	522	560	522	539	901	61.6	3.02	3.16	3.09	1,063	62.9
Total	1,688	4.0	540	582	538	567	1,462	3.9	3.20	3.29	3.25	1,688	3.9
Health Worker													
Accepted	32	35.1	550	568	538	562	32	41.0	3.21	3.21	3.18	32	35.1
Non-Accepted	59	64.8	475	501	479	472	46	58.9	2.80	2.93	2.89	59	64.8
Total	91	0.2	501	525	500	504	78	0.2	2.97	3.05	3.02	91	0.2
Other Profession													
Accepted	3,608	38.3	580	622	572	613	3,274	39.7	3.48	3.49	3.48	3,608	38.3
Non-Accepted	5,804	61.6	533	568	529	546	4,969	60.2	3.02	3.16	3.09	5,804	61.6
Total	9,412	22.4	551	589	545	572	8,243	22.4	3.20	3.29	3.24	9,412	22.0
Owner, Manager, Administrator (Non-Farm)													
Accepted	3,694	35.4	568	619	565	611	3,378	36.6	3.49	3.48	3.49	3,694	35.4
Non-Accepted	6,739	64.5	521	563	521	538	5,830	63.3	3.01	3.14	3.07	6,739	64.5
Total	10,433	24.9	538	583	537	564	9,208	25.0	3.19	3.26	3.22	10,433	24.4
Clerical or Sales Worker													
Accepted	835	34.4	555	611	558	607	760	36.1	3.47	3.46	3.47	835	34.4
Non-Accepted	1,591	65.5	519	561	521	536	1,343	63.8	3.02	3.16	3.09	1,591	65.5
Total	2,426	5.7	532	578	533	560	2,103	5.7	3.18	3.27	3.22	2,426	5.6

APPENDIX TABLE C-2 (Continued)

Applicants by Father's Occupation	Number With MCATS	Percent With MCATS	Mean MCAT Scores				Number With GPAS	Percent With GPAS	Mean UG GPAS			Total All	Percent
			VER	QUA	GEN	SCI			BCPM	AO	TOTAL		
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)
Transport or Equipment Operative													
Accepted	219	34.1	535	575	534	572	194	34.5	3.25	3.38	3.31	219	34.1
Non-Accepted	423	65.8	490	527	497	509	368	65.4	2.97	3.14	3.05	423	65.8
Total	642	1.5	505	543	509	531	562	1.5	3.07	3.22	3.14	642	1.5
Craftsman, Skilled Worker													
Accepted	1,299	30.5	548	598	546	594	1,188	32.2	3.42	3.46	3.44	1,300	30.5
Non-Accepted	2,953	69.4	509	544	511	525	2,500	67.7	2.98	3.12	3.05	2,954	69.4
Total	4,252	10.1	521	561	522	546	3,688	10.0	3.12	3.23	3.18	4,254	9.9
Unskilled Worker, Laborer, Private Household Worker (Non-Farm)													
Accepted	655	34.0	507	559	506	552	594	36.7	3.21	3.33	3.26	655	34.0
Non-Accepted	1,271	65.9	481	514	490	493	1,024	63.2	2.85	3.03	2.94	1,271	65.9
Total	1,926	4.6	490	530	496	513	1,618	4.4	2.98	3.14	3.06	1,926	4.5
Farmer, Farm Manager													
Accepted	363	36.8	524	594	526	589	330	39.1	3.52	3.50	3.51	363	36.8
Non-Accepted	623	63.1	480	525	477	506	514	60.9	3.03	3.12	3.07	623	63.1
Total	986	2.3	496	551	495	537	844	2.2	3.22	3.27	3.24	986	2.3
Farm Foreman, Farm Laborer													
Accepted	47	25.0	534	586	529	583	38	29.0	3.23	3.34	3.28	47	25.0
Non-Accepted	141	75.0	473	515	472	492	93	70.9	2.86	3.04	2.94	141	75.0
Total	188	0.4	489	533	486	515	131	0.3	2.97	3.13	3.05	188	0.4
Homemaker													
Accepted	9	32.1	556	607	560	589	8	34.7	3.25	3.50	3.37	9	32.1
Non-Accepted	19	67.8	498	528	487	505	15	65.2	2.80	3.13	3.00	19	67.8
Total	28	0.0	517	553	511	532	23	0.0	2.95	3.30	3.13	28	0.0
Other													
Accepted	1,336	33.9	549	602	543	592	1,182	35.2	3.41	3.45	3.43	1,336	33.8
Non-Accepted	2,603	66.0	506	548	509	522	2,173	64.7	3.00	3.14	3.07	2,606	66.1
Total	3,939	9.4	520	567	521	545	3,355	9.1	3.14	3.25	3.19	3,942	9.2

APPENDIX TABLE C-2 (Continued)

Applicants by Father's Occupation	Number With MCATS	Percent With MCATS	Mean MCAT Scores				Number With GPAS	Percent With GPAS	Mean UG GPAS			Total All	Percent
			VER	QUA	GEN	SCI			BCPM	AO	TOTAL		
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)
No Response													
Accepted	222	22.8	566	606	561	593	209	18.2	3.23	3.26	3.25	344	19.9
Non-Accepted	751	77.1	531	560	531	540	938	81.7	2.82	2.97	2.90	1,384	80.0
Total	973	2.3	539	571	538	552	1,147	3.1	2.90	3.02	2.97	1,728	4.0

APPENDIX TABLE C-3

MCAT Scores and Undergraduate College Grades of Applicants

by Acceptance Status and by General Career Activity Plans, 1974-75 First-Year Class

Applicants by Career Plans	Number With MCATS	Percent With MCATS	Mean MCAT Scores				Number With GPAS	Percent With GPAS	Mean UG GPAS			Total All	Percent
			VER	QUA	GEN	SCI			BCPM	AO	TOTAL		
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)
TOTAL													
Accepted	14,943	35.6	563	610	559	603	13,609	36.9	3.44	3.46	3.45	15,066	35.3
Non-Accepted	26,921	64.3	518	555	518	532	23,193	63.0	2.98	3.12	3.05	27,558	64.6
Total	41,864	100.0	534	575	532	558	36,802	100.0	3.15	3.25	3.20	42,624	100.0
General Practice													
Accepted	5,003	31.4	555	601	553	597	4,559	32.8	3.41	3.44	3.42	5,003	31.4
Non-Accepted	10,915	68.5	513	548	515	527	9,334	67.1	2.96	3.11	3.03	10,916	68.5
Total	15,918	38.0	526	565	527	549	13,893	37.7	3.11	3.22	3.16	15,919	37.3
Specialty Practice													
Accepted	4,169	36.3	555	603	551	592	3,769	37.9	3.41	3.46	3.43	4,170	36.3
Non-Accepted	7,292	63.6	509	547	510	520	6,162	62.0	2.97	3.14	3.05	7,293	63.6
Total	11,461	27.3	526	568	525	546	9,931	26.9	3.13	3.26	3.19	11,463	26.8
Research and/or Teaching													
Accepted	614	36.1	573	629	569	628	563	38.5	3.49	3.43	3.47	614	36.1
Non-Accepted	1,083	63.8	522	576	523	557	896	61.4	3.03	3.09	3.06	1,083	63.8
Total	1,697	4.0	540	595	539	583	1,459	3.9	3.21	3.22	3.22	1,697	3.9
Combination of Specialty Practice, Research, and/or Teaching													
Accepted	2,999	40.6	576	625	569	617	2,728	42.7	3.48	3.47	3.48	2,999	40.6
Non-Accepted	4,381	59.3	528	569	526	548	3,647	57.2	3.00	3.13	3.06	4,383	59.3
Total	7,380	17.6	548	592	544	576	6,375	17.3	3.21	3.28	3.24	7,382	17.3
Other Medical Field													
Accepted	142	34.7	579	606	577	595	132	37.5	3.33	3.37	3.34	142	34.7
Non-Accepted	267	65.2	531	553	526	524	220	62.5	2.98	3.09	3.05	267	65.2
Total	409	0.9	548	572	544	548	352	0.9	3.11	3.20	3.16	409	0.9
Other Non-Medical Field													
Accepted	11	18.6	582	641	585	600	9	23.6	3.33	3.55	3.44	11	18.6
Non-Accepted	48	81.3	508	550	482	516	29	76.3	2.89	3.03	2.96	48	81.3
Total	59	0.1	522	567	501	532	38	0.1	3.00	3.15	3.07	59	0.1

APPENDIX TABLE C-3 (Continued)

Applicants by Career Plans (1)	Number With MCATS (2)	Percent With MCATS (3)	Mean MCAT Scores VER (4)	QUA (5)	GEN (6)	SCI (7)	Number With GPAS (8)	Percent With GPAS (9)	Mean UG GPAS BCPM (10)	AO (11)	TOTAL (12)	Total All (13)	Percen (14)
Undecided													
Accepted	1,901	42.8	575	622	569	614	1,739	43.4	3.51	3.51	3.51	1,901	42.8
Non-Accepted	2,541	57.2	537	570	532	551	2,261	56.5	3.07	3.20	3.13	2,541	57.2
Total	4,442	10.6	553	592	548	578	4,000	10.8	3.26	3.33	3.30	4,442	10.0
No Response													
Accepted	104	20.8	574	605	570	595	110	14.5	3.23	3.23	3.23	226	18.0
Non-Accepte	394	79.1	540	568	540	546	644	85.4	2.79	2.93	2.88	1,027	81.9
Total	498	1.1	547	576	546	556	754	2.0	2.86	2.97	2.93	1,253	2.9

APPENDIX TABLE C-4

MCAT Scores and Undergraduate College Grades of Applicants

by Acceptance Status and by Specialization Plans, 1974-75 First-Year Class

Applicants by Specialization Plans (1)	Number With MCATS (2)	Percent With MCATS (3)	Mean MCAT Scores VER (4)	QUA (5)	GEN (6)	SCI (7)	Number With GPAS (8)	Percent With GPAS (9)	Mean UG GPAS BCPM (10)	AO (11)	TOTAL (12)	Total All (13)	Percen (14)
Total													
Accepted	14,943	35.6	563	610	559	603	13,609	36.9	3.44	3.46	3.45	15,066	35.3
Non-Accepted	26,921	64.3	518	555	518	532	23,193	63.0	2.98	3.12	3.05	27,558	64.6
Total	41,864	100.0	534	575	532	558	36,802	100.0	3.15	3.25	3.20	42,624	100.0
Basic Medical Science													
Accepted	433	37.2	574	630	569	630	395	38.9	3.50	3.47	3.49	433	37.2
Non-Accepted	729	62.7	527	575	525	560	620	61.0	3.04	3.09	3.07	729	62.7
Total	1,162	2.7	544	595	542	586	1,015	2.7	3.22	3.24	3.23	1,162	2.7
Family Practice													
Accepted	3,296	32.2	559	599	557	597	3,022	33.6	3.41	3.43	3.42	3,296	32.2
Non-Accepted	6,930	67.7	520	548	519	530	5,951	66.3	2.97	3.12	3.04	6,930	67.7
Total	10,226	24.4	532	565	531	551	8,973	24.3	3.12	3.22	3.17	10,226	23.9
Internal Medicine													
Accepted	1,077	36.7	570	610	561	608	965	38.0	3.43	3.42	3.43	1,077	36.7
Non-Accepted	1,852	63.2	516	552	516	538	1,572	61.9	2.95	3.07	3.01	1,853	63.2
Total	2,929	7.0	536	573	532	564	2,537	6.8	3.13	3.20	3.17	2,930	6.8
Obstetrics/Gynecology													
Accepted	359	29.0	536	575	531	558	324	32.0	3.29	3.36	3.31	359	29.0
Non-Accepted	875	70.9	493	525	495	493	686	67.9	2.90	3.09	2.99	875	70.9
Total	1,234	2.9	505	540	505	512	1,010	2.7	3.03	3.18	3.09	1,234	2.9
Pediatrics													
Accepted	1,304	36.3	551	599	551	584	1,182	37.8	3.40	3.46	3.43	1,304	36.3
Non-Accepted	2,284	63.6	504	547	506	516	1,942	62.1	2.97	3.16	3.06	2,284	63.6
Total	3,588	8.5	521	566	523	541	3,124	8.4	3.13	3.27	3.20	3,588	8.4
Psychiatry													
Accepted	522	34.8	595	617	590	605	476	36.5	3.38	3.48	3.43	522	34.8
Non-Accepted	977	65.1	550	555	551	531	826	63.4	2.90	3.17	3.05	977	65.1
Total	1,499	3.5	566	576	564	557	1,302	3.5	3.08	3.29	3.19	1,499	3.5

APPENDIX TABLE C-4 (Continued)

Applicants by Specialization Plans (1)	Number With MCATS (2)	Percent With MCATS (3)	Mean MCAT Scores VER (4)	QUA (5)	GEN (6)	SCI (7)	Number With GPAS (8)	Percent With GPAS (9)	Mean UG GPAS BCPM (10)	AO (11)	TOTAL (12)	Total All (13)	Percent (14)
Public Health, Community Medicine													
Accepted	677	34.2	573	591	566	582	612	36.1	3.28	3.38	3.32	677	34.1
Non-Accepted	1,302	65.7	525	548	528	526	1,083	63.8	2.92	3.10	3.00	1,304	65.8
Total	1,979	4.7	542	562	541	545	1,695	4.6	3.05	3.20	3.12	1,981	4.6
Surgery													
Accepted	1,241	32.4	540	608	537	595	1,100	33.8	3.41	3.42	3.42	1,242	32.4
Non-Accepted	2,588	67.5	488	549	494	519	2,149	66.1	2.98	3.10	3.04	2,588	67.5
Total	3,829	9.1	505	568	508	543	3,249	8.8	3.12	3.21	3.16	3,830	8.9
Surgical Sub-Specialty													
Accepted	573	35.3	557	620	552	611	512	36.7	3.45	3.46	3.45	573	35.3
Non-Accepted	1,049	64.6	513	556	516	531	882	63.2	2.95	3.08	3.01	1,049	64.6
Total	1,622	3.8	529	579	528	559	1,394	3.7	3.13	3.22	3.18	1,622	3.8
Other													
Accepted	616	32.9	576	625	570	614	564	34.7	3.46	3.45	3.46	616	32.9
Non-Accepted	1,256	67.0	533	569	528	550	1,060	65.2	2.99	3.10	3.05	1,256	67.0
Total	1,872	4.4	547	587	542	571	1,624	4.4	3.15	3.22	3.19	1,872	4.3
Plan to Specialize													
Accepted	1,628	45.7	571	626	567	616	1,499	47.6	3.53	3.52	3.53	1,628	45.7
Non-Accepted	1,929	54.2	524	570	522	544	1,645	52.3	3.03	3.18	3.10	1,929	54.2
Total	3,557	8.5	546	595	543	577	3,144	8.5	3.27	3.34	3.31	3,557	8.3
Do Not Plan to Specialize													
Accepted	645	28.8	548	605	546	599	586	30.6	3.45	3.48	3.46	645	28.8
Non-Accepted	1,592	71.1	514	555	517	530	1,328	69.3	2.97	3.11	3.03	1,593	71.1
Total	2,237	5.3	524	569	525	550	1,914	5.2	3.12	3.22	3.17	2,238	5.2
Undecided													
Accepted	2,449	43.8	572	625	566	617	2,244	44.7	3.52	3.51	3.52	2,449	43.8
Non-Accepted	3,140	56.1	531	572	527	551	2,770	55.2	3.09	3.21	3.15	3,140	56.1
Total	5,589	13.3	549	595	544	580	5,014	13.6	3.28	3.35	3.31	5,589	13.1

APPENDIX TABLE C-4 (Continued)

Applicants by Specialization Plans (1)	Number With MCATS (2)	Percent With MCATS (3)	Mean MCAT Scores VER (4)	QUA (5)	GEN (6)	SCI (7)	Number With GPAS (8)	Percent With GPAS (9)	Mean UG GPAS BCPM (10)	AO (11)	TOTAL (12)	Total All (13)	Percent (14)
No Response													
Accepted	123	22.7	563	600	559	588	128	15.8	3.25	3.25	3.25	245	18.9
Non-Accepted	418	77.2	536	566	539	544	679	84.1	2.79	2.93	2.87	1,051	81.1
Total	541	1.2	542	574	544	554	807	2.1	2.86	2.98	2.93	1,296	3.0